

**The Process of Resort Second Home Development Demand Quantification:  
Exploration of Methodologies and Case Study Application**

by

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**Submitted to the Program in Real Estate Development in Conjunction with the Center for Real Estate  
in Partial Fulfillment of the Requirements for the Degree of  
Master of Science in Real Estate Development**

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**ABSTRACT**

Prevalent methodologies utilized by resort second home development professionals to quantify demand for future projects are identified and critiqued. The strengths of each model are synthesized in order to formulate an original, composite methodology for demand quantification with industry-wide applicability. This “best practices” synthesized model is then applied to a real world case study and back-tested in an effort to gauge its accuracy. After analysis of its performance, modifications are made and an innovative method for forecasting absorption is added to its framework. The resulting product of this effort is the creation of the Comprehensive Resort Second Home Demand Forecasting Model.

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## **Chapter 1: Purpose of Study**

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The purpose of this thesis is to catalogue and critique the prevalent market analysis methodologies utilized amongst real estate practitioners for purposes of forecasting demand for resort oriented second home residential real estate products. Once identified, a hypothesis is generated that recommends the fusion of components from several of the practices in order to synthesize a “best practices” methodology that is more comprehensive than any singular method identified. This hybrid “best practice” market analysis methodology is then applied to a real world case study in an effort to quantify demand for second homes at a New England ski resort.

### **Background on Resort Real Estate Market Analyses**

In 2010, 540,000 vacation homes were purchased in the United States, amounting to ten percent of all residential real estate transactions<sup>1</sup>. The collective value of these transactions is valued at \$81.5 billion<sup>2</sup>. Each year, a significant portion of such residences purchased for recreational use are developed by the resort industry, either as stand-alone projects or as components of larger hospitality endeavors involving other product types, such as resort hotels. With development of individual resorts often costing well into the hundreds of millions of dollars, the financing underpinning development projects in this segment of the market is often as intricate as capital structures associated with other complex products real estate, such as large-scale office, multi-family or mixed-use projects.

However, there are several key distinctions that separate resort second home development from other real estate product classes. Chief amongst these peculiarities are the often very large geographic regions constituting a resort development’s trade area, as well as the extreme sensitivity of the industry to changes in such macroeconomic considerations as employment. For this reason, the market analyses employed to forecast the viability of resort

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<sup>1</sup> National Association of Realtors, 2011

<sup>2</sup> *ibid*

development deals are structured in a manner that differs from other real estate product types, particularly non-resort hospitality products.

In addition to these differences in the inherent nature of the complexities associated with second home as opposed to other real estate asset types, it is interesting to note that there appears to be less agreement among resort home development professionals regarding utilization of an industry standard market analysis methodology than is evident in other real estate classes such as primary multi-family primary residential, office, retail or industrial. In addition, many resort developers and consultants, despite their differences, do not always utilize quantitative metrics. As one hospitality and resort consultant stated: “It’s more art than science...there’s no excel model that is employed across the industry. If there was, there would be very little use for hotel consultants”<sup>3</sup>

The frequent absence of rigorous quantitative analysis underpinning resort market research has led some to question the accuracy of efforts to gauge demand relative to other real estate product types. This sentiment is expressed below by a variety of resort development professionals:

“In my experience, the methodology is very different from company to company...There are no tried and true methodologies...Resort [market analysis] metrics are far less precise than other product types.”<sup>4</sup>

“Real estate professionals are usually pretty good at analyzing the supply side of the equation because it involves the examination of physical real estate products. This feels familiar to them. However, the analysis of demand is often more of a struggle, as it integrates the discipline of macroeconomics and feels more foreign to them.”<sup>5</sup>

“[With respect to ski resort development and operations] Has anyone asked the customer lately what type of package they want? The ski industry is very low on the scale of marketing research; of understanding customers; and of pricing to customers’ desires.”<sup>6</sup>

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<sup>3</sup> Rachel Roginsky, Pinnacle Advisory Group, 2011

<sup>4</sup> David Corbin, Aspen Skiing Company, 2011

<sup>5</sup> Marc Wexler, Southworth Development, 2011

<sup>6</sup> Hulick, *Downhill Slide*, 2002

As with other real estate product types, the task of performing the market analysis for resort developments is often subcontracted out to consulting firms specializing in the practice. Through interviews conducted with eleven resort developers and consultants, and analysis available academic literature, it appears that two general schools of thought exist with respect to utilization of market analyses compiled by resort developers. One camp of developers appears to place a great deal of emphasis upon consultants' conclusions and make only minimal efforts to corroborate their reports' findings. The second group of developers takes the consultants' conclusions seriously yet places an equal emphasis upon performing their own due diligence, often with the support of the raw data collected by the consulting firm. As stated by the Vice President of Planning and Development for Aspen Skiing Company, "The raw data is only as good as the developer who is analyzing it." The ultimate calculus to proceed or stand down on a given resort development project really needs to be conducted by the developer.

This sentiment is reinforced through the insight provided by a former resort market consultant. It is the belief of this individual that a misalignment of incentives exists between the developer and many feasibility consulting firms. At its origin is the motivation of market analysts to produce reports with conclusions recommending development in order to ascertain additional revenue streams from the developer, such as the master planning services often offered within these same consulting firms. The conflict of interest associated with these differing incentives is evidenced through the internal pressure often placed upon the consultant to arrive at conclusions in favor of development.<sup>7</sup> While this anecdotal reference may serve to erode some degree of credibility of certain resort development market analysis consultants, one allegorical reference and several corroborations constitutes a sample size far too small to reach any conclusions. However, the reader should understand that, structurally, the misalignment of incentives between developer and consultant does seem plausible, and measures taken by the developer to mitigate this risk would only serve to benefit the quality of reports generated, not to mention the bottom line.

As alluded to above, there are discernable reasons why a standardized methodology for resort second home market analysis seems so elusive. Chief among these is the fact that within

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<sup>7</sup> Chris Kiley, Aspen Skiing Company, 2011

the overarching category of “resort second homes”, there are many product types. Fractional condominiums geared towards empty nesters on a beach in the Caribbean will have a different target market, and thus, a different calculus for demand, than a family oriented ski-in/ski-out mountain side development site in Aspen, Colorado. Both of the above will differ from the prototypical buyer at a subdivision development of lakeside single family second homes in New Hampshire. Compounding the intricacies of the demand equation, the “feeder markets”, or locations from which critical masses of buyers will be drawn, will almost certainly be removed geographically from the development site, itself. As stated by Adrienne Schmitz, author of the *Urban Land Institute’s* textbook *Resort Development*, “...market analysis for resort development requires some of the more complex types of feasibility studies. Further, the potential markets for resorts may be national or even international in scope, unlike most other types of real estate, which typically rely on a more localized market.”<sup>8</sup>

A second key issue is the volatility associated with the demand for resort products, which greatly complicates the resort developer’s ability to accurately forecast demand for second home resort products. This challenge dates back to the industry’s origins. In 1929, resort hotel receipts across the United States totaled \$76,560,000. One year later, revenues had plummeted to \$22,237,000.<sup>9</sup>

Nevertheless, one of the central tenants of this research effort is to illustrate that there are many elements of demand analysis that are common to all resort second home developments. The recognition of this fact, and utilization of recommendations set forth in Chapter 3 may prove beneficial to the advancement of a deeper industry standard and methodological approach to the quantification of resort market analyses procedures.

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<sup>8</sup> *Resort Development*, Urban Land Institute, 2008

<sup>9</sup> *The Hotel and Restaurant Business*, Donald E. Lundberg, 1971



## Chapter 2: Examination of Currently Utilized Methods

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In an effort to identify the prevalent methods of quantifying demand for second home resort development in use in the industry, this analysis utilizes a combination of research and interviews with resort development practitioners. The following section reveals the results of this effort.

### **Method I: Comp-Centric Model<sup>10</sup>**

This methodology identifies the market for a given resort real estate offering primarily by looking to the buyers of properties with similar physical attributes within close geographic proximity in an effort to understand who is likely to purchase property at the subject development. Once identifying who the “target market” is likely to consist of, the strength of demand is gauged through an analysis of demographic trends within the target market. Such trends as population growth or decline, income level, previous second home real estate purchasing patterns and percentage of this demographic owning second homes are all scrutinized. Finally, the likelihood of actually capturing the target demographic is taken into account. Attributes factoring into this calculation are ease of travel (such as flight or drive times from the target market), regional visitor volume trends and infrastructure capacity and quality currently in place in the resort region (such as airports, road network, electrical, sewer and water utility capacities). In addition, this third step involves a more in depth comparable property analysis in order to inventory the total competitive set, and to assess the relative attractiveness of the subject property against the comparable properties to gauge competitive advantage. In addition, the absorption rates of the competitors are closely analyzed, calculating the currently available number of months’ supply of inventory. This methodology concludes with the instruction to monitor the input variables outlined above. At the point in time when the monitored input variable values rise above an actionable demand threshold, the Comp-Centric model forecasts that market demand will be able to support the second home development and the project should be undertaken.

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<sup>10</sup> *Resort Development*, Urban Land Institute, 2008 (Model title by Chris Wholey)

The model is depicted graphically below as Exhibit 2.1.

While many of the central tenants of this model are rooted in solid logic, the input variables employed to 'drive' the conclusion are largely based on historical data and comparable properties which may or may not actually capture maximum potential demand based upon their physical features, pricing, quality and other related variables . Rather than utilizing inputs that forecast future demand from forward-looking projections related to population and/or income trends in the subject properties' own self-identified feeder markets, the heavy utilization of historical buying pattern trends based upon other properties' performance is backward-looking by its very nature.

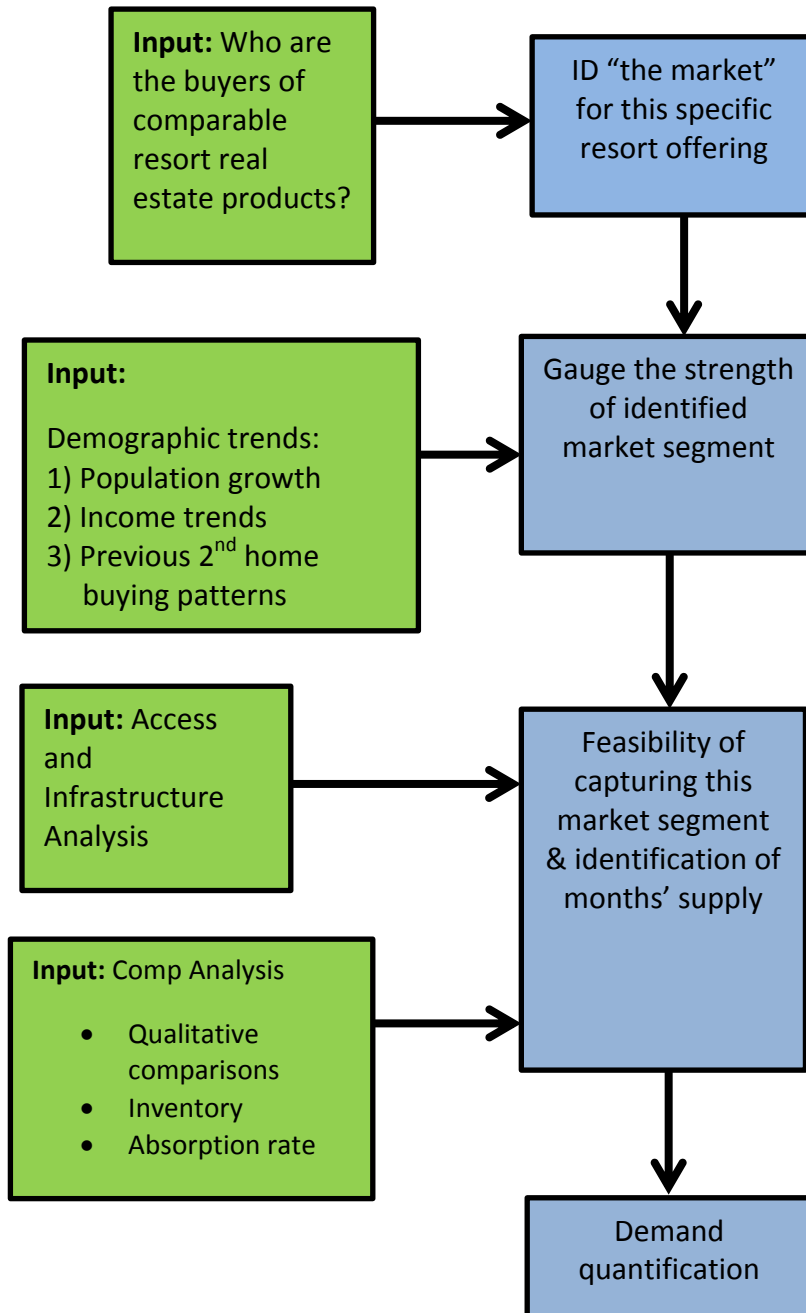
Given the disassociation between a resort's physical site and the geographic place of residency of its buyers, the successful identification of a development's feeder market is pivotal to the ultimate success or failure of a second home property. Given the gravity of this calculation, it seems as though this model's heavy reliance on comparable properties' feeder markets does not provide the depth of due diligence necessary to provide compelling degree of accuracy. While the demographic trends and historical market activity captured at comparable properties certainly factor into the subject development's feeder market calculation, they do not represent the entire equation. There will almost certainly be nuances, subtle or otherwise, that differentiate the subject property from its competitors and can, in turn, make a consumer more or less likely to purchase real estate in the subject respective development. An example of this could be ease of access, such as direct versus indirect airlift from a given feeder market to the subject region versus comparable properties. A development being proposed on an outer island in the Bahamas, while containing a commercial airport, will need to be aware that its feeder market may differ from that of an otherwise similar resort on a more mainstream island such as Grand Bahama, whose airport may have direct flights from several US metropolitan feeder markets. In the case of the out-island resort, the true feeder market may turn out to be smaller, southeastern American cities, whose airports may offer regional flights to the Bahamian out-islands, while northeastern US cities and other destinations offer no direct airlift. In turn, transit time to reach the resort destination will have a direct impact on (1) radius within which feeder markets are located and (2) average length of stay by hospitality patrons.

For this reason, two destinations with similar attributes but different travel time requirements may have drastically different feeder markets.

In addition, the relative physical attributes of the property and its competitors need to be analyzed for discrepancies that may affect the feeder markets. An example of this may be a higher quality of skiing available at a certain mountain resort in relation to the subject property. Although the level of quality with which the subject property will be programmed and constructed to may be of a nearly identical level, the subject property may never be able to achieve the same level of penetration within the feeder market due to the inferior nature of the natural amenity offered in the form of a lesser quality skiing experience.

Exhibit 2.1

### Comp-Centric Model



## Method II: Product Differentiation Model<sup>11</sup>

While bearing some structural resemblance to the Comp-Centric Model, the central tenant of the Product Differentiation Model is its ability to forecast demand for a given second home development based upon the unique attributes of the subject property, as opposed to initiating the demand quantification process through an examination of the prototypical buyer at comparable properties – an exercise whose shortcomings are discussed above.

This model is based on the belief of its creator, a veteran of the resort development industry, that resorts which are unable to differentiate themselves from their comparable properties will ultimately fail to achieve the market share necessary to survive in the ultra-competitive and volatile world of resort home sales. Therefore, capturing a unique competitive advantage is critical.

With this assumption in place, the model begins by utilizing the natural or man-made attributes of a property as the fixed point from which the demand analysis begins. It is imperative that the analyst ask the question, “Are there attributes of this property that truly distinguish it from other properties?” The answer to this question for successfully differentiated products will often take the form of natural attributes, such as unique, breathtaking views, unrivaled skiing conditions or secluded tropical islands. However, several types of man-made factors can also serve to successfully differentiate a product. For example, developing residences that cater to a high-end demographic, with top of the line finishes and residence club benefits, can constitute a differentiating factor in a geographic region that is not currently servicing that market yet has feeder markets with the prerequisite high income levels to absorb such product. However, the developer who differentiates their product on the basis of man-made attributes runs the risk of having their ‘unique quality’ replicated more easily than would the developer who builds their brand around a unique natural characteristic.

Advancing the argument one step further, the ‘sense of place’ created by or already existing around a resort development can often represent an even higher value unique attribute than natural, geographic qualities. Purchasing a second home within a community

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<sup>1111</sup> Methodology provided by David Norden, Owls Head Partners, during 6/2/11 interview (Model name created by Chris Wholey)

that feels authentic and connected to the local culture, provides recreational opportunities that allow the homeowner to connect with one's neighbors, and also contains an established collection of vibrant restaurants will typically be much more well received by the market than would a development with high quality architecture and craftsmanship yet feels fabricated, generic or offers few recreational outlets outside of the resort's central theme. As stated by David Norden, founder of Owls Head Partners, a resort development consulting firm, "The quality of the homes is now expected, and the building itself is more or less a commodity. Anyone with talent can build a high quality home. So it really comes down to "sense of place" and community. Lifestyle. Shared values. [In the case of ski resorts] Good skiing and ski conditions help. Location is very important...building the most beautiful building doesn't get the job done<sup>12</sup>." As an example, Norden cites a mountain resort in western Massachusetts, a state not associated with superb skiing conditions, as experiencing a high volume of ski home sales. Norden attributes this to the 'sense of place' derived from the region in which the resort is located, The Berkshires. Implicit in this, the area offers a high degree of aesthetic beauty coupled with a wide variety and range of non-ski related activities. In 1999, National Geographic ranked the Berkshires as the number seven destination on a list of the world's 133 greatest places, stating "*This area in MA seems to have the right balance of picturesque towns, arts offerings, and well-protected natural beauty*"<sup>13</sup>."

Upon discovery of a 'sense of place' or natural-environment related differentiating attribute on a given parcel, the subsequent task becomes the identification of an extremely targeted demographic group that will be attracted to this unique feature. While in a vacuum, this second step may look similar to the first step of the Comparable properties-Centric Model, but the inputs used to derive this information are distinct from one another. The Product Differentiation Model leverages the expertise of consultants who have extensive professional knowledge of activities associated with the property's differentiating factor – very often in a capacity outside of the subject resort site's geographic region and context. The consultant's knowledge of this type of amenity is utilized to assess the quality level of the property's distinguishing attribute relative to similar amenities elsewhere in the world.

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<sup>12</sup> David Norden, Owls Head Partners, 7/15/11

<sup>13</sup> National Geographic TRAVELER, 1999

From this point, if the consultant's amenity-specific knowledge leads to the conclusion that the resort possesses an attribute of unique quality, the market analysis progresses to the next step, which is comprised of three critical questions: First, "Is there enough of a critical mass of households through-out the potential feeder markets to whom this amenity will appeal to generate a sufficient pool of buyers?" The second question to be answered at this stage is, "Where are these people located?" As a follow-up to this, it should be determined if there are common feeder markets in which potential consumers reside. The third vital question to be answered at this state is, "How easily can the site be accessed from these locations?" Pivotal to this model is leveraging the consultant's amenity-specific knowledge to provide answers to Questions 1 & 2 listed above. Question 3 can then be answered from the developer's own independent analysis.

The model's creator illustrates the application of this concept through the following example:

*The proposed development site that the developer was investigating was a pristine parcel of land in the Bahamas with many acres of natural beach frontage. However, as there are many beautiful beaches throughout the world, he did not feel that this constituted enough of a differentiating factor to provide the proposed resort hotel and residence club with a probable chance of success.*

*Upon deeper investigation, the developer discovered that the area was home to some of the best fly-fishing in the Caribbean. Believing that this could constitute a unique attribute for which there could be significant demand, the developer contacted a fly-fishing excursion company renowned across the fishing industry for their breadth of knowledge and affluent clientele, and enlisted them as consultants for the Bahamian resort development.*

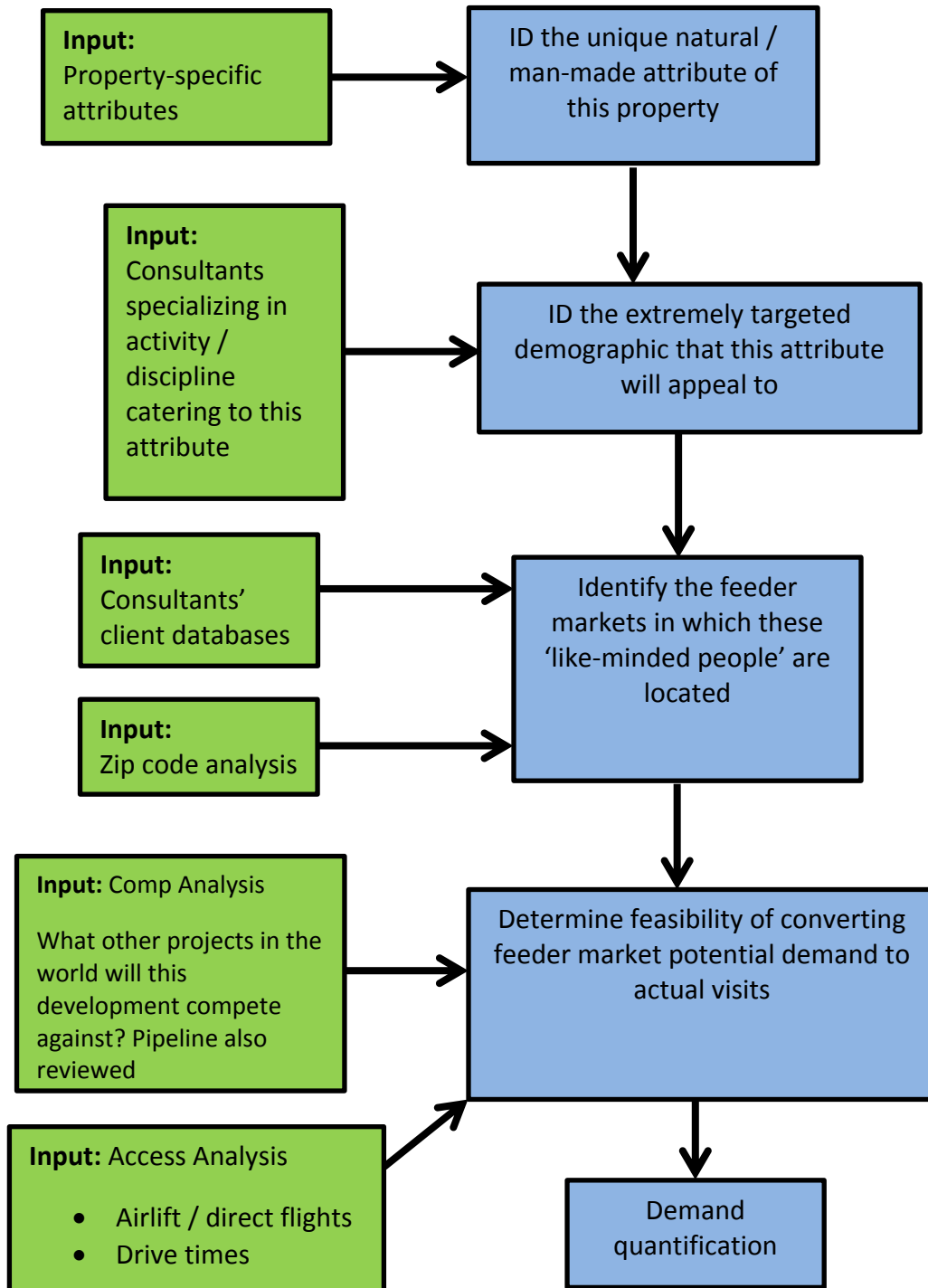
*After receiving the excursion company's affirmation that the site did, in fact, offer world class fly-fishing, the developer acquired a database maintained by the consultant listing demographic and contact information for past purchasers of the firms' high-end fly-fishing excursion trips. From this information, the developer was able to begin to identify where the critical mass of 'like-minded people' were located, if their population in any one region could constitute a feeder market, and how easily they would be able to access the site from these various locations. In addition, the demographic data provided by the fly-fishing excursion company regarding their clientele also provided a window into the relative affluence of this target market and, in turn, provided valuable insight into the level of quality to which the development should be constructed.*

As can be seen through the methodical manner in which a unique attribute of a property is used as the fixed point from which the demand forecast is made, the Differentiation Model appears more proactive, precise and forward looking model than its Comp-Centric cousin.

The Product Differentiation Model is presented as Exhibit 2.2:

Exhibit 2.2

**Product Differentiation Model**





### **Model III: Gause Personal Use Ski Condo Pricing Regression Model<sup>14</sup>:**

This model, created by William Gause (Gause, 1993) represents the most quantitatively sophisticated second home demand forecasting tool identified during the course of this research effort. While its ability to forecast demand represents quantitative innovation within an industry whose demand quantification practices often appear very qualitative, it was designed for the targeted purpose of forecasting regional demand for Vermont ski condominiums, thereby dampening its immediate ramifications on the second home industry as a whole. However, the model does lay pioneering groundwork for replication and application for other resort product types and regions through modification of the independent variables employed within its central framework. The mechanics of the model are as follows:

A basic assumption is made that skier visits to the mountain are an accurate proxy for demand for condominium units, with the rationale being that more people visiting the mountain equates to a larger pool of consumers investigating the purchase of area real estate. In an effort to then understand what factors determined skier visits, a hedonic regression was run that regressed historical skier visits to Killington Mountain in Vermont against a number of other historical variables in an effort to identify what significant relationships existed, if any, that were useful predictors of demand. The result of this exercise showed that strong correlations did, in fact, exist between skier visits and several variables tested. Chief amongst these were (1) employment level within the feeder markets (both current and lagged for one and two years) and (2) amount of natural snowfall received at the ski mountain. All four variables were statistically significant. Therefore, given accurate predictions regarding regional employment and snowfall, accurate forecasting can be made regarding future skier visits, and thus demand for ski condos, at the subject resort.

The model then goes several steps further and predicts, amongst other traits, ski condominium sales prices. The methodology employed to conduct this forecast is structurally the same as above. Historical sales prices of condominiums at Killington Mountain are regressed against a number of other historically documented variables in an effort to identify potential relationships between those traits that most heavily influence sales price. Postulating

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<sup>14</sup> William Gause, *Econometric Regression of Ski Condo Sales*, MIT Center for Real Estate, 1993

that there are two distinct motivating factors for purchasing ski condos, personal use and investment, Gause constructed two models, which regressed slightly different independent variables against condominium price as the dependent variable, in an effort to account for the potential different calculus undertaken by the buyers incited by the two different purchase goals.

While the results of the investment model regression were somewhat inconclusive, the personal use model performed extremely well with an R Square value (a measure of a hedonic regression's ability for the dependent variable value to be accounted for by the values of the independent variables, of 0.72. Simply put, this means that 72% of condominium sales price can be accounted for, and thereby forecasted based upon, the independent variables run in the model. The most significant of the independent variables was found to be (1) change in feeder market total employment, (2) skier visits, (3) previous year's price of condominiums, and (4) condominium stock from two years prior. Therefore, given the historical data for items # 3 and # 4, as well as forecasts for # 1 and 2, the Gause model is able to forecast sales prices of ski condominiums in Vermont.

The inconclusive results of the investment model were insightful in and of themselves, in that the poor correlation between condo sales price and such traditional investment variables as interest rates show that the calculus employed by home owners purchasing second home properties varies from that employed by investors in other forms of real estate.

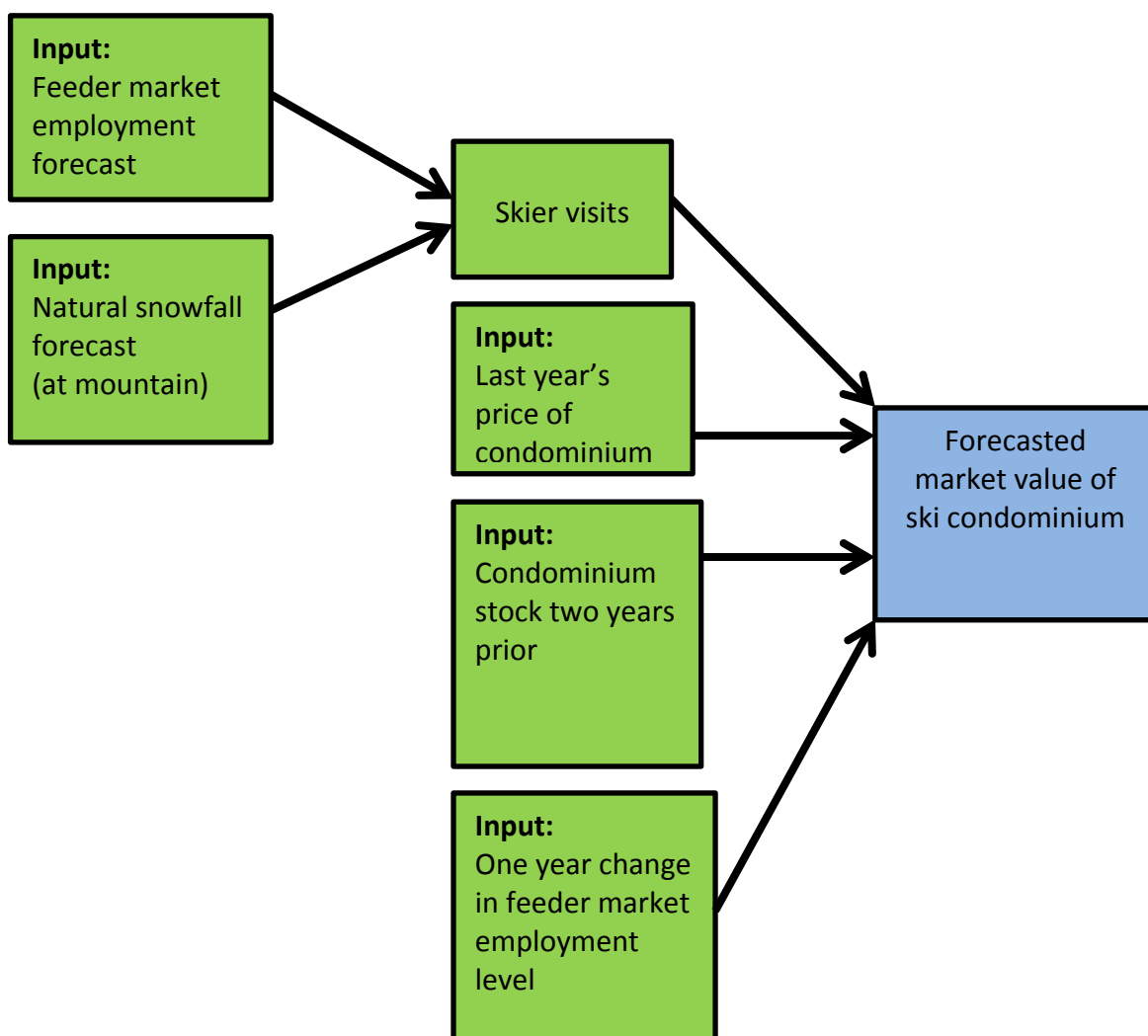
In contrast, back-tests run with the personal-use model comparing actual historical sales price data versus model predictions showed that the model proved to be an effective forecasting tool for real world historical sales price. This indicates that this model is also an effective tool for forecasting future personal-use second home prices. This overarching methodology could be expanded to encompass the forecasting of prices for other second home product types through research efforts into the most significant variables influencing sales prices of various resort property categories.

For Gause, skier visits serves as a proxy for demand for ski homes. While this is statistically justified in the model, the manner in which it is employed in the analysis dodges the direct question of absorption. Therefore, while the quantitative ability of this model to forecast

price of second homes makes it an effective tool of demand analysis for the second home developer, its inability to forecast absorption with the same level of precision necessitates that the Gause model be utilized in combination with other methodologies that speak accurately to absorption in order to understand the complete picture of second home demand for any given development project. The model is depicted below as Exhibit 2.3:

Exhibit 2.3

**Gause Personal Consumption Ski Condo Price Regression Model**



#### **Model IV: Resort Spectrum Model<sup>15</sup>:**

This model forecasts the growth of a resort destination based upon the conditions that must be in place in order for the area to achieve sustained increases in overall tourism demand. In doing so, it analyzes a resort region as a whole, as opposed to any one, specific development project. For example, this model could be used to forecast the growth in potential demand for the resort city of Las Vegas. However, as there is a close relationship between demand for a specific development project and the resort region in which it is located, the forecasted results of this model can, in turn, be used as the initial baseline of a forecasting effort for an individual second home development. Originally developed for application with respect to coastal resort areas, manipulation of the model's inputs should allow for its adaptation to other types of resorts, such as alpine ski regions.

Though the model was built to forecast room night demand for nightly rental hospitality product, as opposed to for-sale second homes, the strong positive correlation between the two forms of resort real estate makes the model relevant for forecasting demand for resort residences, as well. Interviews conducted with several developers substantiate this connection. David Corbin, Vice President of Planning and Development for Aspen Skiing Company, stated that people choose the resort community that they wish to reside in first, and the real estate component second.<sup>16</sup> Therefore, hotel room-night demand for an overall resort area bears substantial relevance to the demand for second homes within the given resort community. Advancing the argument one step further, the director of sales for a luxury ski resort community stated that a significant percentage of those people ultimately purchasing real estate at their community are repeat guests in the resort's luxury hotel. Once they stay in the hotel at least four times, experience has shown the sales team that there is a credible chance they may transition to fractional or whole owners.<sup>17</sup> David Corbin reiterates this assertion, stating, "Until they have visited half a dozen times, they really can't be targeted [as serious perspective buyers]."<sup>18</sup>

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<sup>15</sup> Bruce Prideaux, *Tourism Management*, June 2000, Volume 21, Issue 3

<sup>16</sup> Corbin, 2011

<sup>17</sup> Interview conducted with sales team at Alpine Crest Ski Resort (name changed for anonymity)

<sup>18</sup> Corbin, 2011

An assumption underpinning the Resort Spectrum Model is that all resort areas have a “lifecycle” that can be broken down into five discernable phases. Together, these stages comprise the “resort development spectrum” and consist of the follow phases: (1) local, (2) regional, (3) national, (4) international, (5) stagnation/decline/rejuvenation. The ability of a resort area to achieve growth in tourism demand, defined as progression through the first four phases of the lifecycle spectrum, is entirely contingent upon having incrementally higher levels of each of the following three conditions in place as the condition precedent for each phased advancement:

- 1) Ability to tap new feeder markets
- 2) Ability to tap new economic market segments willing to pay higher rates for better amenities
- 3) Availability of continued development of transportation-related infrastructure

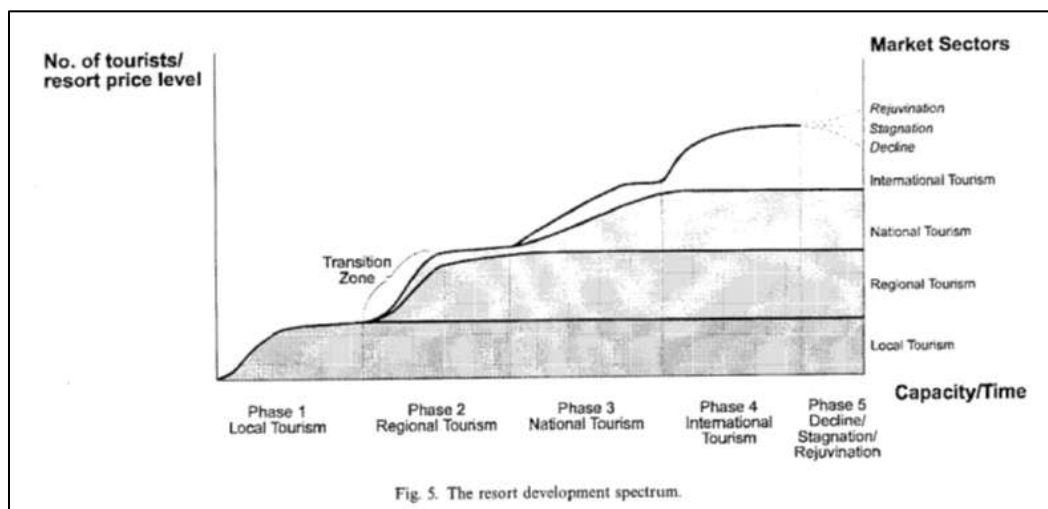
The ability to tap new feeder markets, cited as criteria # 1 above, is contingent upon the distance between feeder markets and resort locations, as well as the average price level of accommodations and amenities within the resort community. Criteria # 2, successfully capturing an increasingly more wealthy market segment, is extremely dependent upon a corresponding increase in the quality of accommodations developed. Failure to provide the demanded levels of accommodation will unilaterally prevent the advancement to a given phase. In addition, it should be noted that the ability to achieve conditions # 1 and # 3 above, without condition # 2, can result in a lateral expansion of demand within the lifecycle phase the resort community is already positioned in (as opposed to advancement to a higher phase with all three conditions being in place).

A major constraint of a given resort area’s potential ability to achieve upward mobility or lateral expansion through the resort development spectrum is the attractiveness and capacity of the area’s principal natural and man-made attractions. This, along with the inability to meet the above listed criteria for advancement, serves to place a ceiling on a given resort area’s forecasted ability to progress from Stages One through Four above.

Using price and quality of amenities as the Y axis variable and resort area capacity as the X axis variable, the equilibrium points of intersection for the supply curve and series of five demand curves associated with each lifecycle phase can be used to depict quantifiable amenity price and tourism capacity milestones within each of the five phases of resort development.<sup>19</sup> Factors causing a shift in the demand curve include currency fluctuations, political interests, inflation and changing recreational preferences of the feeder market. A graphic depiction of this X-Y axis graph is included on as Exhibit 2.4:

Exhibit 2.4

### The Resort Development Spectrum<sup>20</sup>



The shape of the supply curve differs in each of the five phases postulated by the model. The rationale for this is as follows. Recalling that one of the conditions precedent for advancement through the lifecycle phases is the capture of an increasingly more affluent market segment, tourists comprising the dominant market share of Phase Three and Four lifecycle stages would be deemed affluent relative to Phase One and Two tourists. In turn, the model's author asserts that price is not the dominant factor in a prototypical Phase Three or Four tourist's decision regarding vacation destination selection but rather, one of a series of more equally weighted variables employed in the selection process. "Price" is defined as the cost of accommodations, amenities and travel related expenses. Other variables include accommodation and amenity quality, level of service provided and recreational activity quality.

<sup>19</sup> Prideaux, 2000

<sup>20</sup> Image created by Bruce Prideaux, *Tourism Management*, June 2000, Volume 21, Issue 3

In contrast, price constitutes the dominant criteria for resort selection at lower income levels. Therefore, the more affluent a demographic is, the lower their price elasticity of demand will be. This is depicted in Exhibit 2.4 through change in slope of the supply curve as it progresses from left to right. The exact shape of an individual resort area's supply curve will be unique and depend upon the following factors:

- 1) Attractiveness of region's main tourist attractions
- 2) Support provided by local government
- 3) Time efficiency of development process (how long it takes to develop real estate in region)
- 4) Availability of land for new development and municipal resources such as water
- 5) New investments in infrastructure
- 6) Competition from other resort areas
- 7) Changes over time in national and international economies

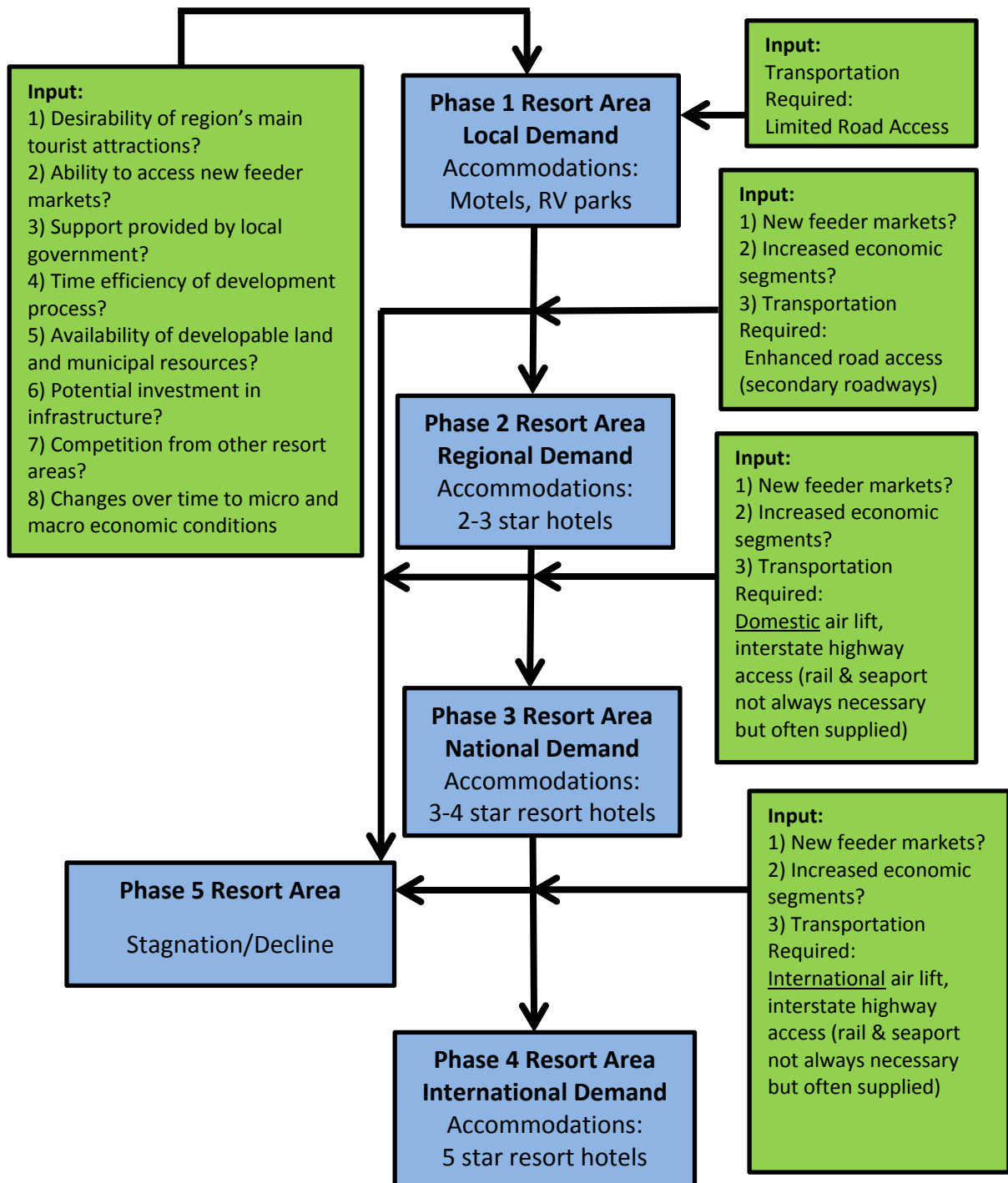
This model also asserts that the expansion of a resort area can be either demand or supply driven. Under the demand driven scenario, new accommodations and amenities are created in response to increased demand having placed pressure on the stock of existing resort area capacity. Supply driven expansion postulates that if new accommodations and amenities are created first, their construction will generate increased demand through their introduction into the marketplace.

It would seem relevant to add to the above expansion theory that the mere creation of new supply in a vacuum would not be enough to spur additional demand for resort product. Rather, by this model's own methodology, the new supply should be brought on line only after reaching the conclusion that the above eight factors shaping the supply curve will lead to the ability to tap new feeder markets and/or economic segments necessary for meet the demand requirements to stabilize the additional inventory.

A graphical depiction of the Resort Spectrum Model is included as Exhibit 2.5:

Exhibit 2.5

## Resort Spectrum Model





## **Model V: “Fly-To” Destination Resort Model<sup>21</sup>**

Nearly all second home developers interviewed in support of this research effort expressed the sentiment that demand calculus for resort real estate located far enough geographically from its feeder markets to render air travel as the primary means of transportation between the two regions, otherwise known as “fly-to” destination requires a different methodology than would a resort where the majority of buyers are driving to the site from their primary residences, or “drive-to” markets.

Using the structural rubric created by Prideaux in the above model, it follows that the clientele purchasing real estate in “fly-to” destinations would be traveling to Phase Three or Phase Four resorts and therefore, on the whole, comprise a more affluent demographic than would the average purchaser of “drive-to” real estate in a Phase One or Two resort community.

While this increased level of wealth serves as a starting point from which demand for “fly-to” destination real estate demand is forecasted, it also serves to complicate the equation, as, per Prideaux, the increased price that the Phase Three and Four demographic is willing to pay for leisure is comprised of both accommodations and travel. Therefore, when few facets of the spectrum of air travel are constrained by cost and thereby span from regional commercial air service to private jet travel, the ability to forecast feeder market locations becomes more complex and less intuitive.

One approach to overcoming this prediction obstacle is to utilize the Product Differentiation Model to work backwards to feeder markets by analyzing whether or not critical masses of like-minded individuals exist in common locations. However, another approach, articulated by David Corbin and applicable only in established resort locations, thereby meeting the criteria of a Phase Three or Four resort destination, is to by-pass the prediction of feeder market identification in the demand quantification process and instead focus on more readily observable relevant variables specific to this application, such as historic feeder market trends not readily predicable based upon empirical data. Many Phase Four ski resorts in the western United States exhibit these trends.

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<sup>21</sup> Model derived from interview with David Corbin on 6/16/11 (Model name created by Chris Wholey)

For example, Aspen is a “fly-to” alpine skiing resort market frequented by visitors from all over the world. It has proven extremely difficult to predict with any degree of certainty where buyers of second homes in Aspen will originate from. There are several reasons for this.

The first is that the “fly-to” nature of the resort makes the sheer number of individual feeder markets from which buyers originate a very disjointed, and therefore, ineffective platform from which to analyze total demand for future product.

In addition, analysis of the demographic data from known feeder markets often reveals few clues found to be applicable to forecasting the level of penetration that the alpine resort real estate product will achieve within the given feeder. In essence, it appears that consumers of “fly-to” alpine second homes are often times utilizing selection criteria that places significant weight upon “intangible” variables that are extremely difficult to measure. The following example highlighting this Phase Four trend as it relates to Beaver Creek, another western United States alpine resort community, serves to illustrate this phenomenon:

*Beaver Creek, located in the Colorado Rocky Mountains, has become home to a large contingency of real estate purchasers from Cincinnati. There is nothing on paper that would have forecasted that affluent ski enthusiasts from a mid-western city such as Cincinnati, Ohio would opt to purchase real estate in Beaver Creek over other high end ski destinations within a proximate geographic location, such as the communities of Vail or Aspen, both also located within the state of Colorado. Much of the relative preference of a given feeder for a specific resort market is attributed by such developers as David Corbin to the snowballing effect of buyers following initial precedent set by one's peers within the feeder market.*

*With respect to Beaver Creek, Corbin hypothesizes that years ago, a small number of affluent individuals from Cincinnati opted to purchase resort real estate in the resort town versus other “fly-to” ski resorts for reasons unique to their consumer preferences, as opposed to more conventionally predictable variables such as travel time, cost, quality of accommodations and service. Perhaps their motivations stemmed from such fickle factors as their having taken a memorable vacation there as a child (although they may not grow up in Cincinnati) and as a result, felt a nostalgic, emotional connection to the mountain. As resort real estate is classified as a completely discretionary purchase, its justification can often be a qualitative, rather than quantitative, process. As such, friends and neighbors of the initial Beaver Creek purchasing set may rationalize their own purchase of Beaver Creek real estate by saying to themselves, ‘My friend and neighbor, who is (for example) a physician and I consider to be a savvy consumer, purchased real estate in Beaver Creek. It must be a good investment if he was willing to purchase a home there – and it would be enjoyable to vacation with friends I already know from home. If I’m in a position to purchase a*

*vacation home in a ski destination in the next few years, Beaver Creek is where I want to be, as well.”*

In this manner, Corbin argues that intangible factors lead to a snowball effect of buyers from a given feeder market producing significant penetration into the resort real estate offerings of a particular “fly-to” ski destination. As these intangible yet credible factors providing the initial catalyst for the deep penetration of certain feeder markets are difficult to forecast, the Corbin model treats this variable as one which can only be observed from a historic trend perspective. Therefore, its usefulness in forecasting where demand will come from for a new destination, as well as new feeder markets within an established resort, is limited.

However, for established “fly-to” destinations in alpine environments, historical trend data from those feeders with the deepest reaching penetration can be analyzed to provide a snapshot of where demand has historically come from – and where it may continue to be sustained in the future. However, as with all backward-looking analysis methodologies, its ability to predict future shifts in demand leaves a substantial margin for error.

In contrast, Corbin has found that destination ski resort real estate tracks very closely with such macroeconomic variables as the Consumer Confidence Index. There are two reasons that this appears to be an effective means of forecasting demand for such Phase Three and Four resorts.

First, the high number of national, and often international, feeder markets, as discussed above, makes attempts to gauge demand based upon an analysis of all but the top few markets an extremely tedious and unwieldy effort. For this reason, economic metrics that assess the health of the economy at a national or international level often provide a more effective means of accurately assessing demand than do a collection of more individually targeted efforts.

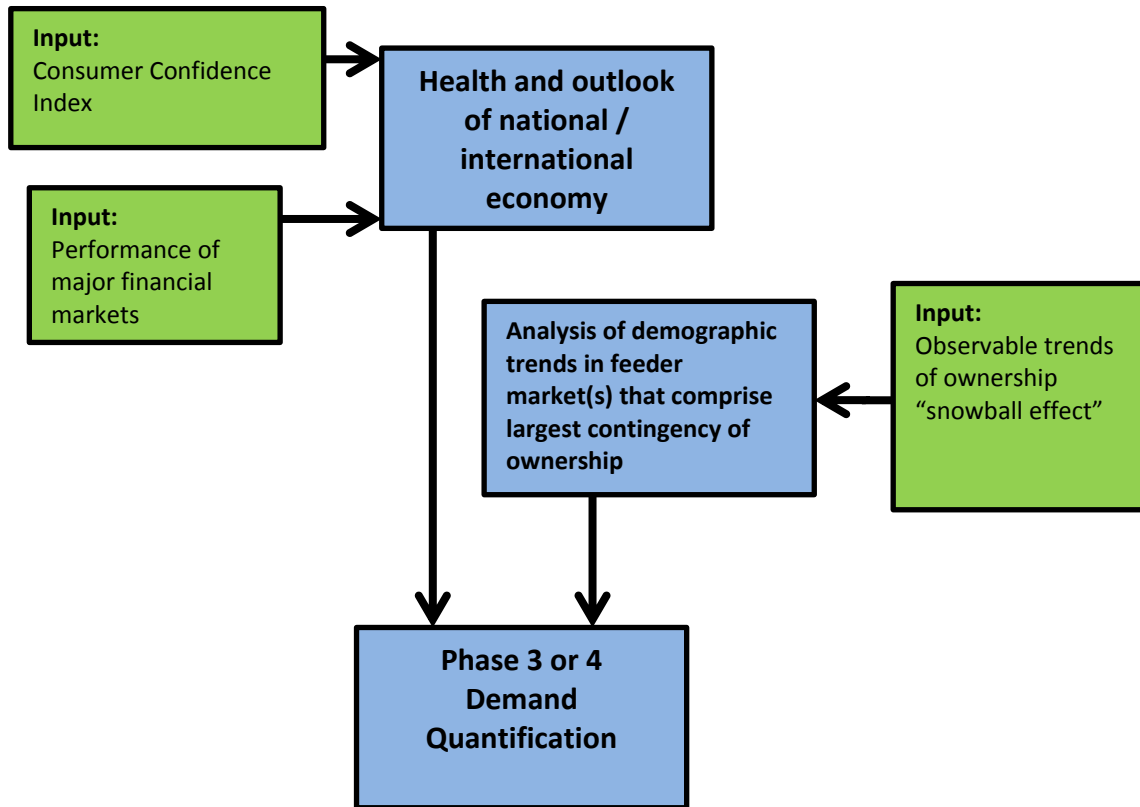
Second, as stated by Corbin, the purchase of a luxury ski home is an extremely discretionary purchase. For this reason, its consumption can be foregone very easily. Unlike a primary residence, a second home in Vail, Colorado, for example, is not something that anyone needs to purchase for survival. Due to this “luxury” nature of the second home market, Corbin states that consumers of this product type “need to be feeling flush”, and that an investment in

resort real estate is an investment that they can afford to make at that very moment. For this reason, luxury resort real estate tracks very closely with the Consumer Confidence Index (CCI). Although Corbin believes that the average purchaser of luxury ski resort second homes, with an average age of fifty years old and above, is doing so to create a “legacy property” for their extended family to enjoy for generations to come, they will not make the final decision to purchase if they do not perceive that their total accumulation of wealth is headed in an upward direction at present – even if their total net worth could withstand the risk associated with the real estate purchase in the event of a substantial loss of value to their portfolio. Therefore, in addition to the CCI, the performance of the stock market is a variable that ski resort developers often use to gauge future demand for their luxury second home product, with long term upward trends in the market correlating positively to periods of increased high-end resort residence purchases.

In summary, analysis of established Phase Three and Four ski resort developments has revealed that observable historic trends in feeder markets, the Consumer Confidence Index and the performance of the US stock market are three variables that, used together, provide the basis of a model with which to forecast demand for this product type. This model is presented in graphic form as Exhibit 2.6:

## Exhibit 2.6

### "Fly-To" Destination Resort Model



## **Part I Conclusion:**

Through examination of each of the above five models, it seems plausible that the strongest attributes of each can be extracted and synthesized to create one overarching model equipped to analyze demand for a second home offering at each phase of the underlying region's position on the "resort development lifecycle spectrum".

In order to best illustrate this concept, the author has created what is termed the "Synthesized Resort Second Home Demand Analysis Model". The central spine of the Resort Development Lifecycle Model is utilized as the backbone of this model. This makes intuitive sense, as the phase of the lifecycle of the resort area in which the proposed development is located truly represents the short-term fixed variable from which the demand analysis must be conducted within the confines of.

From that point, demand for a specific second home development within a current lifecycle phase is analyzed horizontally, radiating outward from the central spine, with quantitative methodologies utilized on the left side of the chart and qualitative analysis employed on the right side. As has become evident through this Part I analysis, there are a variety of qualitative and quantitative methods utilized within the industry. Formulating a comprehensive model that draws upon both types of examination would appear to stand the best chance of accounting for as many of the most influential variables affecting demand as possible.

In addition, the model captures the ability for the region as a whole to move from one lifecycle "phase" to the next. This is represented in the flow chart by a vertical move up or down the central spine. This facet of demand, perhaps best described as the "context of the problem" is important to capture, as the ramifications of underlying regional future growth or decay affect the manner in which demand for an individual resort development deal would be analyzed. Therefore, forecasting factors causing a shift in the lifecycle stage of the region become integral components of the overall demand analysis process.

An important point of clarification is that, per the Lifecycle Model, it is possible for a given resort area to jump non-sequentially between phases.<sup>22</sup> As such, the demand forecast for a potential development deal at a given point in the spectrum is not bound by the region's current feeder markets, economic segments and transportation infrastructure but rather, the level of those variables that are forecasted to be attained through predicted changes to the area, resulting either directly or indirectly from the proposed project.

For example, a proposed luxury hospitality and second home development on a nearly uninhabited Caribbean island with very little transportation infrastructure and very limited hospitality already in place would meet the definition of a Phase One region. However, if developer or government capital was utilized to construct an international airport, it may be feasible to capture the feeder markets necessary to propel the region directly into Phase Three or Four status without first passing through Phase Two growth.

Yet while the outputs of demand forecasting are not constrained by a region's current lifecycle phase, the inputs to the demand calculus are, indeed, bound by the present phase of growth in which the deal is being analyzed. The reason for this stems from the fact that Phase Three and Four resort areas have established patterns of active feeder markets, while developments planned in Phase One and Two regions do not. Therefore, while some facets of the analysis will be common to all four phases, the analysis for these latter phases of the spectrum will need to begin with a comprehensive investigation into where demand for the product will come from before transitioning into a measure of the depth and detailed nature of this demand from identified sources. For Phase Three and Four, the central tenant of the demand equation is not where demand will come from, as the destination has already demonstrated national or international attraction but rather, what factors will affect the level of demand for the product on a more macro level.

For these respective peculiarities at each phase of the spectrum, the following methodologies are applied:

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<sup>22</sup> Prideaux, 2000

- Phase One: Product Differentiation Model, 8 step qualitative component of Resort Lifecycle Spectrum Model<sup>23</sup>
- Phase Two: Gause Personal Consumption Ski Condo Demand Regression Model<sup>24</sup>, Product Differentiation Model, 8 step qualitative component of Resort Lifecycle Spectrum Model
- Phase Three: Corbin “Fly-To” Destination Resort Model, 8 step qualitative component of Resort Lifecycle Spectrum Model
- Phase Four: Corbin “Fly-To” Destination Resort Model, 8 step qualitative component of Resort Lifecycle Spectrum Model
- Movement Between Phases: Resort Lifecycle Spectrum Model – 3 key variable analysis

The model is depicted graphically as Exhibit 2.7 below<sup>25</sup>.

For Part II of this research effort, the Synthesized Resort Second Home Demand Forecasting Model will be applied to a case study for purposes of both testing historical real world accuracy and, after making any necessary modifications to account for deficiencies identified, forecasting future demand for a potential development deal.

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<sup>23</sup> 8 step qualitative component of the Lifecycle Spectrum is depicted at each phase as contained within the Resort Development Spectrum Model’s central spine

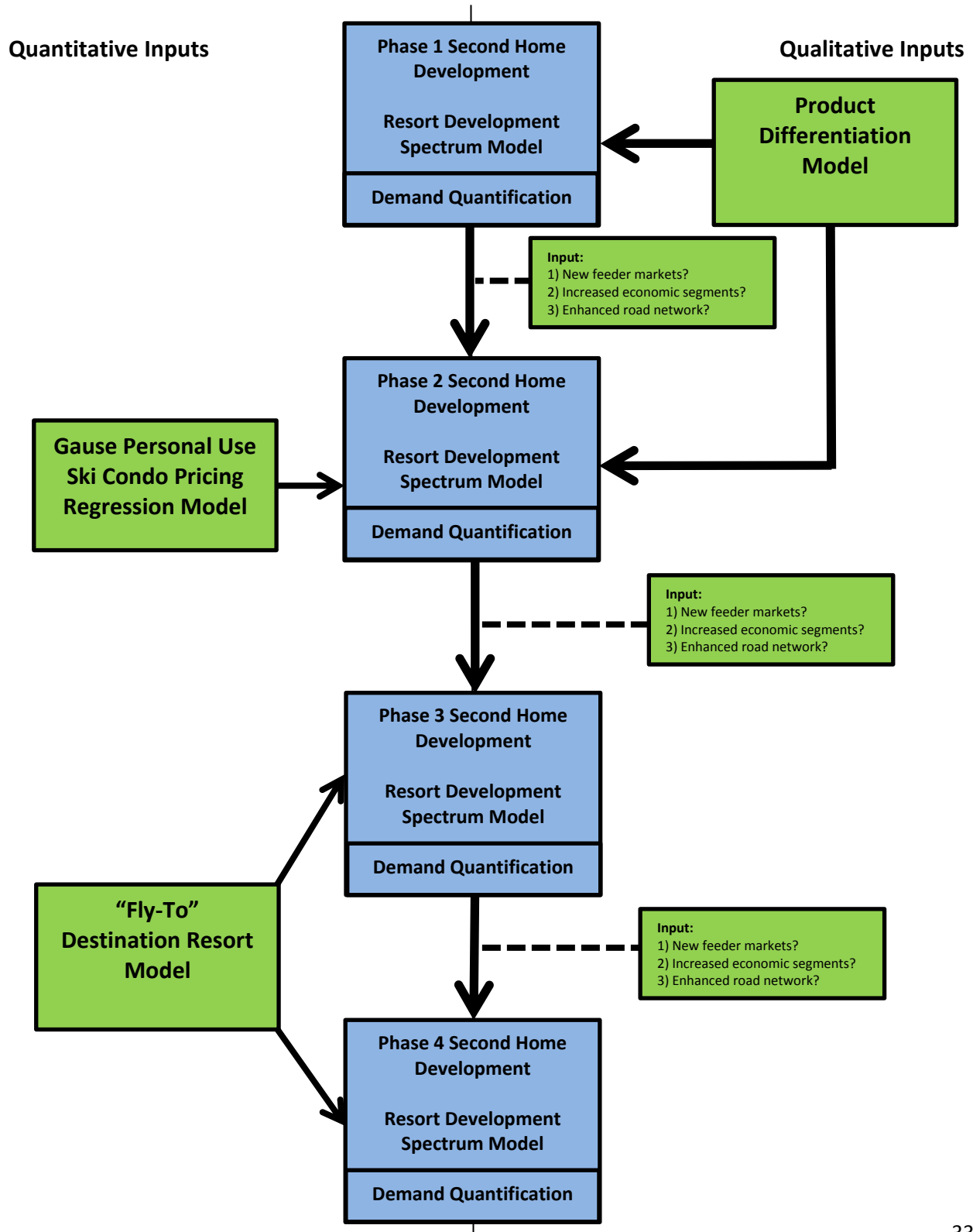
<sup>24</sup> While the Gause model is specific to regional alpine ski resorts, it is included here as a placeholder for both warm and cold weather regional second home developments. The reason for this is that the set of variables used as inputs for regression analysis focus upon regionally oriented variables, such as weather conditions at the development site and employment changes in the dominant feeder market (presupposing a single dominant, regional demand source). It is strongly believed that a manipulation of these same regionally oriented input variables to the attributes of a Phase Two warm weather destination would prove an equally useful forecasting tool.

<sup>25</sup> An expanded version of the Synthesized Second Home Demand Forecasting Model, depicted in expanded form, is included at the end of this thesis as Appendix I



Exhibit 2.7

Synthesized Resort Second Home Demand Forecasting Model



## Chapter 3: Case Study Application

### I. Historical Context of the Project

From its humble origins predating World War II, downhill skiing has been a fixture in the town of Sunny Gulch on the mountain upon which the Alpine Crest ski resort is situated<sup>26</sup>.

While the business of skiing was something that the resort had come to master over the decades, the development of the property's land for hospitality and residential uses had never come to fruition. With one of Alpine's two mountains leased from the state and the other owned by the resort, development of the 'resort-owned' side was potentially feasible. In the absence of on-property hospitality amenities, a host of quaint inns and restaurants had taken hold in the surrounding community to service the tourism lodging demand created by the mountain. While rich in New England charm, these hotels lacked the type of presence and style that only an on-mountain resort can achieve in ski country.

Yet it was through a rather indirect manner that the wheels of progress would be set in motion for the eventual development that would take place at the resort. In 1996, the New England state in which Alpine Crest Resort is located passed environmental legislation that would impact their ability to remove water from the area's waterways for mountain snowmaking operations. Under the regulations of the new law, the removal of water from the state's rivers and streams would be prohibited upon water levels falling below a given threshold. The stipulated minimum volume represented a level that would render snowmaking at the mountain unsustainable and thereby threaten the very existence of the resort, restricting skiing to weekend use only or terminating operations entirely.

The solution identified to overcome this operational obstacle and maintain snowmaking operations was the construction of a 100+ million gallon reservoir. During periods of time when the volume of water within the resort's water snowmaking-source river was exceeding the 'no-removal' limit, Alpine Crest would draw water into its reservoir. Forecasted periods during which river water could be siphoned into the reservoir corresponded to volume levels that exceeded seasonal snow making requirements.

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<sup>26</sup> Actual name of town and ski resort have been altered to protect anonymity of real world subject development project

In an effort to offset the cost of the infrastructure required for all components of the snowmaking reservoir system, the resort explored the possibility of developing residential for-sale and fractional real estate at the base of the ski mountain. In-house planning staff employed by the resort recognized that project sprawl would be of concern to both the community and state office of environmental planning. In order to mitigate this issue, the decision was made to investigate building to a top-of-market, high-end residential standard on a relatively dense footprint, thereby maximizing price per square foot of developed land. Several subsequently commissioned professional market analyses forecasted that demand for high-end residential and hospitality services at the property would be high. From this point forward, the project was viewed by the resort not as simply a means through which to offset reservoir construction cost but as a standalone, conventional real estate development project enabling Alpine Crest to access a segment of the hospitality product market that they were currently unable to service. In doing this, the development project would represent an attractive equity investment for the mountain and further expand the attractiveness and cache of the resort as a whole.

Two additional factors took place at this time that were vital to the feasibility of any large-scale development on the property. First, the municipality in which Alpine Crest was situated completed the construction of a new waste water treatment plant capable of processing one million gallons of waste water per day, with a new corresponding expanded sewer line having been brought up to the edge of the Alpine Crest property. In addition, the state had expressed a willingness to engage in a land swap, trading a portion of the resort's high-elevation property for a state-owned parcel situated at the base of the mountain that would represent the heart of the new development.

With this research and set of events in place, the resort was able to convince its parent company to approve funding for 100% of development costs.

Over the course of the next year, Alpine Crest engaged in a series of public meetings with community stakeholders in order to ensure that any planned development would, to the extent possible, incorporate their input and in doing so, gain their approval. The vision for the development was now coming into focus and design would be modeled to resemble a European alpine village.

The town of Sunny Gultch had always been renowned for its quintessential small village charm yet urban level of cultural and culinary sophistication. While the majority of the 'sense of place' created by this, as well as historic yet well-preserved New England architecture lining its streets had traditionally stopped at the entrance to the resort, the programming behind Alpine Crest's new master plan made a concerted effort to create a cohesive, uninterrupted 'sense of place' drawing upon the what had already been created by the town, in conjunction with the ideals of the ski resort, but now expanding to incorporate the resort's physical structures and environment, as well.

Ultimately, the community supported the development of the proposed high-end product not only because it would reduce potential density but also due to the fact that the additional revenue accrued would be used to finance the improvement of on-mountain amenities, including new ski lifts and expanded snow-making capacity. The final product of both these meetings and the efforts of the resort's multi-disciplinary planning team was a master plan. Bringing the contents of this document to fruition would require an extensive state level entitlement process.

In its final, entitled form, Alpine Crest was granted the right to develop 342 condominium units that could take the form of whole, fractional or condo-hotel ownership, 38 attached townhomes and 20 home sites. All units constructed would be situated slope side, allowing ski-in, ski-out access for buyers.

By July of 2011, Alpine Crest has constructed approximately 50% of the above master plan, as well as several substantial non-residential components, including a new ski lodge and performing arts center. Residential units remaining un-built consisted primarily of additional condominium units. Real estate closings at the resort for Phase One of the master plan had commenced in 2004 and were continuing at the time of this thesis.

## **II. Back Testing of Model With Case Study**

In order to test the accuracy of the Synthesized Resort Second Home Demand Forecasting Model (the "Synthesized Model"), demand for the first phase of the Alpine Crest development project will be forecasted utilizing the model's methodology. This will entail the

analyzing the project through data that would have been available around 2004, which constitutes the period of time during which Phase One was beginning the sales process. Through a subsequent comparison between model forecasted demand versus real world Phase One results, the model's accuracy will be back tested.

## **Ila. Feeder Market Back-Testing**

The first step in utilizing the Synthesized Model is to understand what phase of the lifecycle spectrum the town of Sunny Gulch and by association, resort of Alpine Crest, are positioned in. With an international airport situated within twenty miles of the site and a strong network of interstate and secondary highways servicing the area, the infrastructure capacity is in place to render the site a Phase Three national or Phase Four international resort region. However, as outlined in the Resort Spectrum Model, the natural or manmade attributes of the region serve to set a "phase-ceiling" above which increased feeder markets, and therefore phases of the cycle, can be difficult to attain. For Alpine Crest, the quality of the skiing relative to other destinations across the country represents the factor to analyze for such a potential phase-constraint.

The chart in Exhibit 3.1 summarizes the major quantifiable characteristics of five of the country's most lavish ski resorts, as well as Alpine Crest. While Alpine Crest's length of season and average temperature appear consistent with those of the other five properties, the resort's skiable acreage and vertical drop (a measure of the mountain from summit to base) are substantially smaller than the western US properties. For the vast majority of skiers, larger ski areas and vertical drop are more desirable than smaller mountains, as variety of trail choices and length of individual runs are correspondingly increased with both. In addition, while the category of average annual snowfall appears to be comparable amongst all resorts, the quality of that snow is superior for the five western US resorts relative to that at Alpine Crest, as drier air in that portion of the country provides for lighter and fluffier snow. This type of snow, termed 'powder' by skiers, is more desirable than the more moist and heavy snow found throughout New England. Therefore, while deemed very good by New England standards, on the whole, the natural attributes of Alpine Crest fall short of its western United States competitors.

### Exhibit 3.1

#### Sampling of Luxury American Ski Resorts<sup>27</sup>

Resort / Location	Skiable Acres	Vertical Drop (ft)	Average Annual Snowfall	Length of 2010-11 Ski Season	Avg Ski Season Temperature (F)
Vail, CO	5,289	3,450	350"	11/19 – 4/24	24.7
Park City, UT	3,300	3,100	360"	11/21-4/19	30.1
Sun Valley, ID	2,054	3,400	220"	11/26 - 4/25	24.0
Telluride, CO	2,000	4,425	309"	11/25 - 4/3	27.5
Beaver Creek, CO	1,815	4,040	310"	11/24 - 4/17	27.2
Alpine Crest	485	2160'	333"	11/24 - 4/17	24.9

Given this data, the author forecasts that Alpine Crest will be a predominantly a “drive-to” resort, drawing from a pool of potential buyers situated within, on average, an approximately 3.5 to 4 hour drive time radius<sup>28</sup>. Outside of this comfortable drive-time ring, it is believed that the average consumer looking for a “fly-to” ski home would opt to fly to the western United States where mountain size and ski conditions are superior. For this reason, Alpine Crest and its hometown of Sunny Gulch is classified as a Phase Two, regional resort destination.

With this knowledge, Phase Two Regional Resort is selected as the fixed point within the Synthesized Model from which the lateral inputs for analysis are drawn. Working first from the qualitative side of the model, the Phase Two structure dictates that the Product Differentiation Method be applied.

As the initial step of this model, the question is asked, “What are the unique natural and/or manmade amenities that will serve to differentiate this product?” As determined that Alpine Crest is a regional resort, the differentiation factors need be applied only regionally. In this case, the New England states comprise the region for examination.

For the Alpine Crest resort, a substantiation portion of the answer is the town of Sunny Gulch and its unique sense of place. Since the time shortly after its incorporation in the mid-eighteenth century, tourists have been drawn to this picturesque New England town for its blend of natural beauty, authentic, historical charm and breadth and quality of outdoor

<sup>27</sup> Vail Resort, vail.com, Park City, parkcity.com, Sun Valley Resort, sunvalley.com, Telluride, tellurideresort.com, Beaver Creek Resort, beavercreek.com, Western Regional Climate Center, The Weather Channel

<sup>28</sup> ULI Resort Development estimated maximum length of drive time for “drive-to” second homes

activities. Over 160 historic buildings and sites have been identified within Sunny Gulch and remain, preserved and/or restored, to this day. Most were constructed between 1810 and 1910.<sup>29</sup> As stated in a historical account of Sunny Gulch published by the town, winter sport has always comprised an integral part of the town's fabric. "From such simple beginnings, arising out of extreme local and economic need [the Depression], the present position of [Alpine Crest], as [a prominent New England ski area], originated. The growth and major development of winter sports in [Alpine Crest] over the last 25 years is a substantial history of its own."<sup>30</sup> Foliage viewing in the fall, hiking and golf in the summer and the natural beauty of the environment have served to make the town a four season resort area, greatly contributing to its 'sense of place'. Quoting the same town historical source, the four season presence of Sunny Gulch is a long standing fact: "The summer tourist season has been increasing for the past several years, as well as the always heavy influx of travelers, during the fall foliage season during September and October. Except for mud season about April when the frost thaws in the dirt roads making them virtually impassable, [Sunny Gulch] is very nearly a year 'round resort community<sup>31</sup>."

Yet the appeal of Sunny Gulch is further reaching than the aesthetics of its buildings and natural environment. The town is home to over forty-five restaurants and cafes and boasts in its online marketing materials that its collection of eateries represents the third most awarded group of restaurants situated within one New England municipality, with Boston, MA and Providence, RI representing the top two locations. Many of the restaurants have been featured in *Gourmet*, *Bon Appetite* and *Wine Spectator* magazines.<sup>32</sup> The cuisine is, on average, high-end and pricing is comparable to major metropolitan area restaurants. In addition, the town is home to over ten artist studios and galleries, many of which have reputations for being amongst the nation's most unique and diverse offerings.<sup>33</sup> Thirdly, seventy separate shops offer a wide variety of high quality consumer goods, ranging from hand crafted jewelry to custom furniture and specialty foods.

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<sup>29</sup> [footnote concealed to protect anonymity of subject development]

<sup>30</sup> *ibid*

<sup>31</sup> *ibid*

<sup>32</sup> [Alpine Crest] *Dining and Shopping Guide, 2011*

<sup>33</sup> [Quote from resort in Sunny Gulch – footnote concealed to protect anonymity of subject development]

In summary, while many other resort communities within the northeastern United States offer a comparable quality skiing experience, the Alpine Crest/Sunny Gulch area differentiates itself by providing high-end dining, unique art venues and the charming environment of a quintessential New England town, whose quality and aesthetic appeal is nearly unrivaled within the New England states.

The next step in the Differentiation Model is to identify the very targeted group that this unique attribute will appeal to. Coupling the quaint village, high end dining, thriving arts with top quality New England skiing and summer outdoor activities with the “drive-to” limitations of the region, the most probable group of ‘like-minded individuals’ that this development is capable of attracting are high net worth families whose primary residencies are located within the 3.5 to 4 hour drive time radius. There are several reasons to substantiate the fact that demand from high net worth individuals for this development offering will be robust:

- First, there is a good deal of evidence to support the fact that this population is already visiting Sunny Gulch:
  - The sophisticated cuisine and high price point of restaurants currently supported by tourists equates to a tourist base with a high level of disposable income. Many entrees at Sunny Gulch’s higher-end restaurants are priced in the mid-twenty to low-thirty dollar range<sup>34</sup>.
  - Average hotel room rate far exceeds the national average. A survey of Sunny Gulch’s three most expensive hotels (not counting the subject property) found that the average rate for a double occupancy room during the off-season was \$310<sup>35</sup>. Rates for the winter season are typically substantially higher than even this value. This compares with a National Average Daily Rate corresponding to the same time period of \$97<sup>36</sup>

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<sup>34</sup> [Sunny Gulch] *Dining Guide*, 2010-2011

<sup>35</sup> [Alpine Crest local newspaper], 7/22/2010

<sup>36</sup> US Hotel Industry, *State of the Industry and Forecast*, 9/10



- There is a known connection between high net worth individuals and patronage for the arts<sup>37</sup>. The presence of a vibrant arts scene in Sunny Gulch would indicate that an affluent demographic is visiting the area.
- Targeted research into national skier profiles and US wealth distribution revealed the following:
  - Skiers, as a population, are more wealthy than the average citizen. According to the National Ski Area Association, in 2009, 77% of all skiers across the United States had a household income greater than \$50,000. Nearly half of all skiers, 46%, reported income in excess of \$100,000.<sup>38</sup>
  - The majority of skiers, averaging 57% over the time period spanning from 2000-2009, report being part of a household with children under the age of 18.<sup>39</sup>
  - A 2010 study revealed that the largest contingency of skiers is comprised of Baby-Boomers and their parents, at 33%<sup>40</sup>. This suggests that a significant percentage of skiers are currently experiencing their peak earning years.
- Many developers of high end vacation home properties deem household earning annual incomes in the top 1% of the US population as having enough disposable income to purchase their product.<sup>41</sup> This equated to an annual income in 2007 of \$277,983<sup>42</sup>. An analysis of this top 1% US wealth demographic reveals that 52% of these individuals are between the ages of 45 and 64.<sup>43</sup>

Coupling the above data, it seems rational that the target buyer for Alpine Crest's second home development would be a 45 to 64 year old head-of-household skier with annual income in the range of the top 1% of US households and children under 18 years of age.

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<sup>37</sup> The Varsity

<sup>38</sup> National Ski and Snowboard Retailers Association, 2011

<sup>39</sup> ibid

<sup>40</sup> Colorado Wild & Ski Area Citizens Coalition, National Ski Area Demographics and Trends, 2008

<sup>41</sup> ULI Resort Development Handbook, 2008

<sup>42</sup> Robert Frank, The Wall Street Journal, 2/1/07

<sup>43</sup> John Weicher, Federal Reserve Bank of St. Louis, "Review", 1997:

In order to determine if there is a critical mass of individuals within the drive ring radius to supply demand for the subject development and where they will come from, it is necessary to examine more closely the target annual household incomes of potential Alpine Crest home buyers.

The first step in this analysis is to forecast of the range of sales prices for the future resort real estate products. For purposes of initial rough estimation, it will be assumed that, given the research conducted on the forecasted prototypical buyer for the Alpine Crest project, there will be a market for three bedroom second homes at a very high level of quality. Assigning values to these variables, the high end of our analysis will be conducted for a 2,500 SF home at \$700 / SF. This price seems in line with Alpine Crest's role as ski leader in the northeast but not the country. For example, in 2008, Crested Butte, Colorado, a top "Fly-To" ski destination, achieved an average price per square foot for homes selling over for over \$1 million of \$975/SF<sup>44</sup> Ratcheting down from there to \$700 / SF for a top of market regional destination seems to be a good price ceiling from which to establish the top end of our price range for testing purposes. Assuming that the largest residency, with three bedrooms, will have a square footage of 2,500 SF, we establish the top end of our test range at 1,750,000. This equates to an average target sales price of \$1,750,000. The price floor within our targeted range is forecasted to be representative of a small, studio condominium type product marketed at the same top-of-market cost per square foot, yet consist of only approximately 500 square feet. This provides an estimated sales price of \$350,000. Therefore, our projected range of sales price values at Alpine Crest to input into our model for demand testing will be \$1,750,000 to \$350,000. This range will be broken into two testing brackets: \$1,500,000 - \$1,750,000 and \$350,000 - \$700,000. Data falling in between these ranges will be assumed to follow a linear average and therefore can be forecasted based upon the results of these two ends of the spectrum.

From here, understanding who within the targeted geographical region can afford to pay for second homes within our established price range is pivotal. In 2008, the Internal Revenue Service conducted a study analyzing wealth allocation of American households with a

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<sup>44</sup> Coldwell Banker Bighorn Realty, Crested Butte 2008 Market Report, 2008

net worth in excess of \$1.5 million. Major asset classes held by these citizens were valued and four categories amongst their assets were broken out. These were: “Primary Residency”, “Other Real Estate”, “Closely Held Stocks” and “Publicly Traded Stock”. For purposes of analysis, “Other Real Estate” will be used as a proxy for average values of second home real estate holdings amongst the various classes of American millionaires. While this category would include investment properties, as well as vacation homes, for purposes of this analysis, it is assumed that the majority of value within this category is derived from homes purchased within resort locations. Bolstering this assumption is the fact that, per Gause’s analysis above, investment often serves as a primary motivation for purchases of real estate within resort developments<sup>45</sup>. Dividing total “Other Real Estate” assets by total Americans at each level of wealth broken out by the IRS, the following average value of second home real estate holdings at each wealth level are derived<sup>46</sup>:

Exhibit 3.2

<b>Average Value of Real Estate Assets Amongst Affluent Americans, 2004</b>		
<b>Net Worth (1,000,000)</b>	<b>Average Value Primary Residence</b>	<b>Average Value "Other Real Estate"</b>
\$1.5 - 2.0	\$307,465	\$276,979
\$2.0 - 3.5	\$404,499	\$389,944
\$3.5 - 5.0	\$515,968	\$617,951
\$5.0 - 10	\$643,043	\$996,303
\$10.0 - \$20.0	\$968,000	\$1,743,924
\$20.0 +	\$1,825,574	\$4,474,170

Based upon this data, an American purchasing a second home with a value of \$1,700,000 has an average net worth of between \$10 to \$20 million dollars. While this information is extremely insightful, there is little available data to affix average net worth to any given geographic location. For this task, annual income is more useful, as this is the metric that such data sources as the US Census Bureau utilize to affix wealth data to locations.

Returning to the data provided by Adrienne Schmitz in the *Urban Land Institute’s Resort Development Handbook*, the second home market is mainly comprised of individuals with incomes in the top 1 to 2% of all households. Our earlier estimation of this top 1% income bracket projects the value at approximately \$278,000 annually. The bottom household income

<sup>45</sup> Gause, 1994

<sup>46</sup> US Internal Revenue Service, Statistics of Income Division

threshold for analysis will be \$100,000. Substantiation for this value is provided by a survey of 4,944 second home owners within the resort region of Cape Cod in southeastern Massachusetts. With an average home price of, 474,500<sup>47</sup>, the Cape establishes itself as a good price comparable for Alpine Crest's lower cost units. In the survey, 66% of respondents had a household income of \$100,000 or greater<sup>48</sup>. Given this data, we will use \$100,000 as our lower threshold for targeted household incomes.

To now summarize the full profile of the target Alpine Crest buyer, we have compiled the following forecasts:

Age: 45 – 64

Primary residence location: 3.5 – 4 hour drive time from Sunny Gulch

Family status: Has children under the age of 18

Approximate net worth:

- \* For most expensive product range: \$10,000,000 +

- \* For least expensive product range: \$2,000,000 +

Annual Household Income:

- \* For most expensive product range: \$278,000 +

- \* For least expensive product range: \$100,000 +

Interests: Alpine skiing, “sense of place” created by historic village with sophisticated restaurants, shops and art galleries

From here, a drive-time analysis is performed in order to identify the potential pool of communities from which feeder markets will be drawn from. The resulting drive-ring map is identified below:

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<sup>47</sup> MA Association of Realtors, 2011

<sup>48</sup> *2008 Survey of Cape Cod Second Home Owners: Technical Report of Findings*, University of Massachusetts, Donahue Institute, Research and Evaluation Group

### Exhibit 3.3

#### Alpine Crest Drive Ring Radius



As shown, this radius, due to the prevailing pattern of the major roadway grid in the New England states (roadways in yellow), leads to more rapid north-south as opposed to east-west vehicular access and causes the selected radius to pinch inward along its horizontal axis. This results in an oval-shaped drive-time ring and covers nearly the entirety of Massachusetts, New Hampshire, western Maine, southern Quebec province (Canada) and northern Connecticut.

Within this drive-ring, 2005 IRS data is mined to identify zip codes in which the average household income met one of two minimum thresholds: \$200,000 or greater and \$100,000 or greater. Remembering that for the most expensive projected homes at Alpine Crest, the target income for potential purchasers is approximately \$278,000, determining the minimum average income threshold for an entire zip code for inclusion as a forecasted feeder community feels to be as much art as science, as it is entirely plausible that communities with an average income of, for example, \$125,000, may have a group of residents with incomes achieving the target value. However, assuming a normal distribution bell-curve shape of incomes within a given zip code, communities with an average household income of \$200,000 seemed more likely to

possess a critical mass of luxury second home income-capable households on the right tail of the bell curve than those with lower averages. Understanding if incomes amongst affluent municipalities follow a normal distribution and, if so, what the standard deviation of incomes typically is would aid greatly in the minimum threshold determination process. In the absence of this data, the \$200,000 estimate was utilized.

For the \$350,000 studio product, the minimum average community household income of \$100,000 was arrived at given the strength of the empirical data taken from the Cape Cod second home income survey, as it speaks to a large survey sample size of second home owners both whose vacation properties are in the northeastern US and within close product price to the Alpine Crest forecasted studio price.

An analysis of the drive-ring radius for households meeting the required income levels shows that for both groups, the vast majority of demand for the Alpine Crest development is forecasted to come from Massachusetts.

In the \$200,000 minimum threshold data set, seventeen eastern Massachusetts communities were forecasted as most likely feeder markets. More specifically, demand in this category is forecasted to come from affluent neighborhoods located within the city of Boston and suburbs along the Route 128 belt. Collectively, these communities' incomes rank in the 99.88 percentile of all American households<sup>49</sup> and had an average household income of \$300,450. These communities filed 70,366 tax returns in 2005<sup>50</sup>. For purposes of this analysis, the assumption will be made that number of tax returns is a good proxy for number of households.

While New York state and Connecticut had a large number of zip codes eclipsing the \$200,000 threshold, including several areas of Manhattan in New York City, and Greenwich, New Canaan and Darien, Connecticut, all were found to be outside of the identified four hour drive-ring, with an average drive time of five hours. At this length of commute, it is forecasted that demand for 'drive-to' vacation homes will be weak<sup>51</sup>. New Hampshire had one community meeting the income criteria. Neither Maine nor Vermont had any.

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<sup>49</sup> Melissa DATA Corp, 2011 & The Boston Globe, 2005

<sup>50</sup> Ibid

<sup>51</sup> ULI Resort Development Handbook, 2008

Exhibit 3.4<sup>52</sup>

Alpine Crest Drive Radius Feeder Markets: Households to \$200,000 Threshold			
Municipality	State	Average Household Income	Number of Returns Filed
Weston	MA	\$531,374	5,055
Boston - Beacon Hill	MA	\$429,103	2,357
Beverly - Prides Crossing	MA	\$414,502	231
Wellesley - Wellesley Hills	MA	\$364,281	6,556
Dover	MA	\$361,394	2,663
Boston - downtown	MA	\$340,744	2,790
Boston - Back Bay (A)	MA	\$311,283	956
Lincoln	MA	\$274,216	2,690
Sherborn	MA	\$255,389	2,044
Boston - Back Bay (B)	MA	\$248,469	9,895
Newton - Chestnut Hill	MA	\$239,380	7,094
Boston - waterfront	MA	\$238,741	3,008
Newton - Waban	MA	\$230,400	2,635
Manchester by the Sea	MA	\$226,405	2,607
Wayland	MA	\$219,808	6,382
Concord	MA	\$214,521	7,991
Newton - West Newton	MA	\$207,217	5,412
Total Households			70,366

Turning to the results of the forecasted feeder markets within the demand range for the \$350,000 price range of real estate at Alpine Crest, we find 91 communities included within the four hour drive ring radius representing an estimated total of 376,759 households. The vast majority, 81%, are located within Massachusetts, with eastern Massachusetts again containing the critical mass of identified communities. Ten New Hampshire towns met the threshold, as did five from Maine. Southern Quebec province also failed to meet the required threshold. The neighborhood of Westmount outside of Montreal was the only Canadian community meeting the minimum threshold, with a 2005 average household income of \$136,294(USD).<sup>53</sup> *Canadian Business* magazine lists the 2010 average net worth of Westmount residents at \$4,087,061(USD). A fairly short drive time of 2.5 hours, coupled with the relatively high level of affluence of this community of 20,494 people makes it a market that will be intriguing to evaluate actual versus forecasted demand from. With respect to the towns identified in Maine and New Hampshire, the locations of these communities are situated within relatively close proximity to many alpine ski mountains. For this reason, it would seem doubtful that their residents would choose to purchase second homes within the same region. Therefore, demand

<sup>52</sup> Melissa DATA, 2001 & The Boston Globe, 2005

<sup>53</sup> Statistics Canada. 2007

from these few affluent New Hampshire and Maine towns is forecasted to be minimal, with the bulk coming from the 81% of communities located within Massachusetts.

Exhibit 3.5<sup>54</sup>

Alpine Crest Drive Radius Feeder Markets: Households to \$100,000 Threshold			
Municipality	State	Average Household Income	Number of Returns Filed
Weston	MA	\$531,374	5,055
Boston - Beacon Hill	MA	\$429,103	2,357
Beverly - Prides Crossing	MA	\$414,502	231
Wellesley - Wellesley Hills	MA	\$364,281	6,556
Dover	MA	\$361,394	2,663
Boston - downtown	MA	\$340,744	2,790
Boston - Back Bay	MA	\$311,283	956
Lincoln	MA	\$274,216	2,690
Sherborn	MA	\$255,389	2,044
Boston - Back Bay	MA	\$248,469	9,895
Newton - Chestnut Hill	MA	\$239,380	7,094
Boston - waterfront	MA	\$238,741	3,008
Newton - Waban	MA	\$230,400	2,635
Manchester by the Sea	MA	\$226,405	2,607
Wayland	MA	\$219,808	6,382
Concord	MA	\$214,521	7,991
Newton - West Newton	MA	\$207,217	5,412
Rye Beach	NH	\$198,112	375
Boston	MA	\$196,593	1,101
Cumberland Foreside	ME	\$192,250	617
Sudbury	MA	\$189,228	7,958

(exhibit continued on following page)

<sup>54</sup> Melissa DATA, 2011 & The Boston Globe, 2005



South Freeport	ME	\$189,019	322
Carlisle	MA	\$183,752	2,354
Wellesley	MA	\$183,158	4,666
Wenham	MA	\$182,764	1,782
Southborough	MA	\$178,733	4,222
Newton Center	MA	\$177,310	8,649
Westwood	MA	\$173,588	6,762
New Castle	NH	\$171,723	578
Harvard	MA	\$169,370	2,363
Boston	MA	\$167,960	2,595
Brookline	MA	\$166,245	9,948
Cohasset	MA	\$164,501	3,396
Boxford	MA	\$160,727	3,675
Lexington	MA	\$159,547	7,581
Lexington	MA	\$157,388	6,833
Needham	MA	\$156,655	8,958
Winchester	MA	\$156,440	10,047
North Hampton	NH	\$148,909	2,410
Hopkinton	MA	\$147,530	6,275
Hingham	MA	\$147,063	10,007
Harborside	ME	\$140,873	79
Marblehead	MA	\$138,417	10,023
Cambridge	MA	\$137,788	15,139
Westmount	QE	\$136,294	8,685
Norwell	MA	\$135,619	4,779
Nantucket (Siasconset)	MA	\$135,353	252
Medfield	MA	\$133,836	5,624
Marshfield	MA	\$132,566	196
Manchester	NH	\$132,188	601
Boston	MA	\$131,324	6,151
Newton Highlands	MA	\$129,615	3,360
Hamilton	MA	\$129,139	194
Hollis	NH	\$128,968	3,490
Bolton	MA	\$128,305	2,200
Duxbury	MA	\$127,287	1,061
Andover	MA	\$125,389	15,384
Cambridge	MA	\$125,190	1,224
Duxbury	MA	\$123,151	6,020
Longmeadow	MA	\$122,795	7,674
Boston	MA	\$122,063	748
Dublin	NH	\$119,665	498
Groton	MA	\$118,081	4,569
Osterville	MA	\$117,341	1,978
Belmont	MA	\$117,300	11,488
Topsfield	MA	\$116,061	2,868
Essex	MA	\$115,247	1,624
Portland	ME	\$114,096	657
Etna	NH	\$113,313	547
West Boxford	MA	\$111,877	203
Sharon	MA	\$111,324	8,011
Waterville Valley	NH	\$111,188	181
South Hamilton	MA	\$110,851	3,401
Portland	ME	\$109,129	31
Newton	MA	\$108,643	7,716
Needham Heights	MA	\$108,482	4,085
West Newbury	MA	\$107,182	1,979
Lynnfield	MA	\$107,043	5,744
Swampscott	MA	\$106,354	6,995
Acton	MA	\$104,867	9,327
Hanover	NH	\$104,094	3,713
Richmond	MA	\$103,937	620
Holderness	NH	\$103,760	420
Norfolk	MA	\$103,296	4,176
Bedford	MA	\$102,499	6,164
Newtonville	MA	\$102,247	4,438
Auburndale	MA	\$102,178	3,109
Marshfield	MA	\$101,207	392
Stow	MA	\$101,174	3,036
Barnstable	MA	\$100,973	1,782
		<b>Total Households</b>	<b>376,476</b>

One final quality of the feeder market identification is now tested: As buyers are forecasted to be heads of households between the ages of 45 – 64, an analysis of the relative composition of “primary taxpayers” within feeder markets as grouped by their age is hypothesized to potentially yield additional clues as to which communities within the feeder list contain the highest pool of likely buyers. In order to best assess all components of the above data gathering exercise, including percentage of primary taxpayer within the 45-65 age group, and utilize it in an attempt to sort the seventeen top communities according to their relative likelihood of serving as Alpine Crest feeder markets, the following methodology is applied: (1) Each zip code’s total number of tax returns is multiplied by the percentage of the percentage of that zip code’s primary taxpayer falling within the ages of 45-64 to calculate total heads of household within target demographic. This value is then multiplied by the average household income of each respective zip code in order to determine aggregate wealth within the target demographic by zip code. Believing that this value will correlate highly with buyers, aggregate household income of the demographic is then rank ordered by zip code in order to forecast location of top feeder markets demanding Alpine Crest real estate development products in the range of \$1,700,000.

This analysis is included as Exhibits 3.6 and 3.7 on the following pages:

# Exhibit 3.6

Households to \$200,000: Expanded Analysis									
Municipality	State	Average Household Income	Number of Returns Filed	National Percentile	Primary Taxpayer Age				
					Under 30 yrs	30 - 44 yrs	45 - 60 yrs	over 60 yrs	
Weston	MA	\$531,374	5,055	100%	29%	16%	30%	26%	
Boston - Beacon Hill	MA	\$429,103	2,357	100%	26%	26%	23%	27%	
Beverly - Prides Crossing	MA	\$414,502	231	100%	32%	14%	32%	21%	
Wellesley - Wellesley Hills	MA	\$364,281	6,556	100%	29%	19%	29%	23%	
Dover	MA	\$361,394	2,663	100%	27%	17%	33%	23%	
Boston - downtown	MA	\$340,744	2,790	100%	20%	18%	23%	39%	
Boston - Back Bay	MA	\$311,283	956	100%	20%	34%	19%	27%	
Lincoln	MA	\$274,216	2,690	100%	22%	15%	31%	31%	
Shelborn	MA	\$255,389	2,044	100%	21%	13%	25%	17%	
Boston - Back Bay	MA	\$248,469	9,895	100%	28%	35%	22%	15%	
Newton - Chestnut Hill	MA	\$239,380	7,094	100%	23%	22%	26%	28%	
Boston - waterfront	MA	\$238,741	3,008	100%	32%	27%	19%	22%	
Newton - Waban	MA	\$230,400	2,635	100%	29%	14%	32%	25%	
Manchester by the Sea	MA	\$226,405	2,607	100%	23%	18%	30%	28%	
Wayland	MA	\$219,808	6,382	100%	23%	18%	32%	26%	
Concord	MA	\$214,521	7,991	99%	23%	16%	32%	29%	
Newton - West Newton	MA	\$207,217	5,412	99%	25%	25%	29%	22%	
Averages:		\$300,425.12	70,366	99.88%	25%	21%	27%	25%	

NOTE: Drive time radius limited to 4 hours

Exhibit 3.7

Top Forecasted Feeder Markets - Alpine Crest Luxury Second Home Development							
Rank	Municipality	State	Average Household Income	Number of Returns Filed	45 - 60 yrs	45-60 households	Aggregate Income
1	Weston	MA	\$531,374	5,055	29.93%	1,513	\$803,968,862
2	Wellesley - Wellesley Hills	MA	\$364,281	6,556	29.10%	1,908	\$695,048,148
3	Concord	MA	\$214,521	7,991	31.55%	2,521	\$540,807,441
4	Boston - Back Bay	MA	\$248,469	9,895	21.57%	2,134	\$530,232,846
5	Wayland	MA	\$219,808	6,382	32.40%	2,068	\$454,562,944
6	Newton - Chestnut Hill	MA	\$239,380	7,094	26.19%	1,858	\$444,768,040
7	Newton - West Newton	MA	\$207,217	5,412	28.51%	1,543	\$319,735,831
8	Dover	MA	\$361,394	2,663	32.56%	867	\$313,328,598
9	Lincoln	MA	\$274,216	2,690	31.49%	847	\$232,260,952
10	Boston - Beacon Hill	MA	\$429,103	2,357	22.61%	533	\$228,711,899
11	Boston - downtown	MA	\$340,744	2,790	23.12%	645	\$219,779,880
12	Newton - Waban	MA	\$230,400	2,635	31.95%	842	\$193,996,800
13	Manchester by the Sea	MA	\$226,405	2,607	30.34%	791	\$179,086,355
14	Boston - waterfront	MA	\$238,741	3,008	19.38%	583	\$139,186,003
15	Sherborn	MA	\$255,389	2,044	24.76%	506	\$129,242,404
16	Boston - Back Bay	MA	\$311,283	956	18.51%	177	\$55,097,091
17	Beverly - Prides Crossing	MA	\$414,502	231	32.47%	75	\$31,087,650
Total Number of Returns				70,366			

As stated above, the total number of 70,366 returns filed within these seventeen towns will be used as a proxy for total number of households comprising the feeder market. As this rank-order adjustment methodology is entirely hypothesized by the author, it will only be back tested for the \$200,000 + threshold drive radius due to the time intensiveness of data gathering for the larger \$100,000+ data set. [In the event that it proves an effective method for fine tuning feeder community forecasts, it will be employed in the forward looking forecasting effort.]

In addition to the above feeder markets, it is anticipated the other markets excluded from the above data set due to their failure to meet forecasted criteria in all relevant categories will have outlier residents who, due to their individual circumstances, may choose to purchase real estate at Alpine Crest. For example, an affluent household from Greenwich, CT, a community lying outside of the identified drive-radius, may elect that, due to their unique set of preferences, the intrinsic benefits of purchasing a second home at Alpine Crest is worth the detraction of a five-hour drive. It is believed that for outliers to the prototypical buyer profile, some additional factor is coming into play. An example of this would be extended family also considering a purchase of resort real estate at the mountain or having vacationed in Sunny Gulch as a child. For this reason, an examination of license plates parked in the parking lot at Alpine Crest revealed that, off all out of state visitors to the mountain, Massachusetts ranked

1<sup>st</sup> with 37% of all out of state visitors, followed by New York at 17%, Connecticut at 12%, New Jersey at 8%, Quebec at 7%, New Hampshire with 3% and Maine tied with several other states at 2%.<sup>55</sup> While these numbers may appear to indicate that a significant percentage of buyers will come from New York and New Jersey, the license plate survey does not reveal the frequency of each vehicle's visits to the mountain. It is hypothesized that due to the drive time associated with the most affluent and therefore likely visitors to Sunny Gulch from these regions, this population is predominantly comprised of vacationers making a once a season trip to the area and would not be inclined to purchase real estate, which insinuates a much more frequent use. Nevertheless, the license plate survey does substantiate the argument that a small percentage of buyers will come from areas outside of the drive ring such as southern Connecticut, New York, New Jersey and Quebec. However, it should be stressed that due to the 'drive-to' nature of this resort, it is forecasted that the percentage of model-outliers purchasing real estate at the Alpine Crest development will be very low, perhaps in the range of fifteen percent.

## **IIb. Absorption Back-Testing**

As noted by multiple interviewees for Part I of this thesis, accurately forecasting absorption and penetration data often represents the most challenging component of a second home demand analysis<sup>56</sup>. The veracity of this statement became abundantly clear at the point of transition within the Synthesized Model from feeder market forecasting to absorption forecasting. The model, representing a composite of industry practices, has very few concrete mechanisms for tangible means of quantifying absorption. This point may not be made as starkly for a subject development with a large number of readily observable, close comparable properties within close geographic proximity to the subject site, in which a straightforward analysis of the comparable properties' absorption history may suffice. However, for a proposed project such as Alpine Crest with no obvious comparable projects within the drive range radius meeting the dual criteria of (1) having been developed to the same level of quality and (2) sharing the central theme of alpine skiing, it is argued that the Synthesized Model, and though

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<sup>55</sup> [Alpine Crest] development team, 2011

<sup>56</sup> Corbin, 2011 & Kiley, 2011

its association, the resort second home development industry, is not well equipped to handle such a scenario. Returning to Exhibit 2.7 and the Synthesized Model, the box reading “Demand Quantification” within its framework at each phase is rendered insufficient for that very task without the provision of a comprehensive tool to forecast absorption.

Due to this, very limited amounts of existing real world or theoretical data dealing with a concrete methodology for second home absorption forecasts, an attempt will be made to formulate an innovative framework inspired, in part, by the principles underpinning the Product Differentiation Model. In addition, for the benefit of comparison, a more traditional absorption forecast will also be made through the analysis of the results of past ski home development in the northeast.

Therefore, the remainder of Section IIb will take the following form:

- Traditional Absorption Model Forecast: Forecast absorption and penetration based upon recent area historical comparable properties with similar physical attributes. This translates to a restriction placed upon the absorption study to an analysis of other ski resort developments.
- “Sense of Place” Absorption Model Forecast: As the Alpine Crest development will attract individuals of a high net worth, an absorption methodology will be created that forecasts how many units will be absorbed annually by this demographic based upon patterns exhibited by this group of ‘like-minded individuals’ in relation to other resort areas in which a proven connection to the given demographic within the feeder can be substantiated. These other communities need not share skiing as a common trait but rather, evidence having captured buyers from the same target feeder markets and demographic over time. However, as described below, this methodology will then need to filter for unique attributes of the buyer in the market for a ski home.

#### Traditional Absorption Model Forecast:

While differentiating factors between the town of Sunny Gulch and the inferior nature of those communities in which “comparable” development projects are situated and

corresponding target market ramifications makes a true ‘apples to apples’ comparison of the deals difficult, there is value in understanding the statistical results of these deals. The three second home ski resort development deals identified as comparable properties due to their geographic proximity to the subject deal are Jackson Gore at Okemo Mountain Resort in Ludlow, Vermont, Claybrook at Sugarbush in Warren, Vermont and the Village at Stratton Mountain in Stratton, VT.

**Jackson Gore at Okemo<sup>57</sup>:**

- Mountain statistics: 635 skiable acres, 2,200’ vertical drop
- Development summary: First phase of development opened in 2003. Phased development of 325 units of housing. Amenities include fitness and aquatic center featuring a full range of workout and swimming facilities, 18 hole golf course, indoor/outdoor year round swimming pool, several restaurants and a seasonally operated skating rink.

**Claybrook at Sugarbush<sup>58</sup>:**

- Mountain statistics: 508 skiable acres, 2,600’ vertical drop
- Development Summary: Began marketing of fractional units in 2004. Project consists of both whole ownership and fractional units. Target demographic appears to be an upper-middle class profile. Claybrook is the first component of a larger envisioned master plan build-out.

**The Village at Stratton Mountain<sup>59</sup>:**

- Mountain Statistics: 600 acres, 2003’ vertical drop
- Development Summary: Stratton Mountain is known for its penetration into the New York and Connecticut feeder markets due to its location in southern Vermont and easy access to Route 91. All development projects to date at the mountain have consisted entirely of whole ownership product. Sales of Phase One began in 2004. Sales prices per

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<sup>57</sup> Okemo Mountain, 2011

<sup>58</sup> Sugarbush, 2011

<sup>59</sup> Stratton Mountain, 2011

square foot have been slightly higher than those achieved at the other comparable properties.

**GENERAL NOTE:** None of the above three development projects are contained within towns providing the ‘sense of place’ contained within Sunny Gulch.

As shown, comparable properties data ranges from project construction completion dates of 2004 through 2007 and includes pipeline data regarding potential future starts, as well. The majority of product types comprising the data set are condominiums, though one townhome project was built, as well. When available, the date presales began was included in the matrix. Identification of this date ensures the accuracy of such categories as ‘average units sold per month’, a metric used, in part, to gauge project success. Two forms of ownership are reflected in the data, whole ownership and fractional sales.

Fractional ownership entitles the purchaser to a given number of weeks’ utilization of a unit in the building in which an interest was purchased each year. The duration of use is calculated according to the size of the share purchased. Fractionals are typically sold in eighth or quarter share<sup>60</sup> and deeded interest corresponds to a collective share of the overarching condominium building, as opposed to an ownership stake in any particular unit. This varies from traditional timeshares, in which no ownership interest is conveyed but rather a ‘right to use’ is purchased. Fractional ownership is commonly structured to allow for the placement of unused weeks by an owner into a rental pool. For the potential buyer, fractional ownership enables many households that would be priced out of whole ownership developments above a certain price threshold the ability to afford a fractional interest in the property. In addition, this form of ownership affords the owner the ability to realize appreciation of the asset, as would a conventional whole-ownership purchaser. For the developer, total price per square foot of completely sold fractional units normally eclipses the price per square foot of whole ownership sales for the same product. As a general guideline, the aggregate value of fractional units is often forecasted to be two to two and one-half times the value of an identical whole ownership unit.<sup>61</sup> However, the developer also often incurs increased marketing costs for

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<sup>60</sup> ULI Resort Development Handbook, 2008

<sup>61</sup> *ibid*



fractional developments resulting from the multiple shares that must be sold corresponding to each individual unit.

### Exhibit 3.8

## Alpine Crest Closest Ski Area Development Comparable Deals<sup>62</sup>

Otomo Jackson Gore Development Sales Status: Late 2007												
Phase	Building	Marketing Began	YR Completed	Units	Ownership	Total Shares/Size	Range/Sales Price/Share	# BRs	Avg Sales \$/SF	Avg Sales \$/SF/Unit	Shares Sold	Status
1	Jackson Gore Inn	1998	2003	117	1/4 share - condo-hotel	468	390 \$64,000 \$47,500 \$99,900 \$16,000 \$169,000 \$95,000 \$175,000 \$198,900 \$250,000 \$415,000 \$625,000 \$599,000 \$1,250,000	Studio 1 2 2 1 2 3 2 2 1 2 2 3 5	\$164 \$122 \$129 \$113 \$151 \$89 \$128 \$100 \$124 \$429 \$457 \$549 \$622	\$656 \$467 \$516 \$453 \$604 \$356 \$511 \$400 \$497 \$429 \$457 \$549 \$622	468	Total pre-sales
2	Adams House	2004	2007	39	1/4 share - condo-hotel	156	1369 \$198,900 \$250,000 \$415,000 \$625,000 \$599,000 \$1,250,000	2 2 3 1 2 2 3	\$100 \$124 \$429 \$457 \$549 \$622	\$400 \$497 \$429 \$457 \$549 \$622	124.8	80% sold
2	Bixby House	2006	2007	30	Single ownership	30	1638 \$599,000 \$1,250,000	2 2 3	\$457 \$549 \$622	\$457 \$549 \$622	27	90% sold
2	Coolidge House	2007	const. not started	35			\$395,000 \$2,900,000	studio 5				
Sugarbush Claybrook Development: 2008												
1	Claybrook	2004	2006	61	1/4 share - condo-hotel	61 - 244	771 \$115,700 \$129,525 \$192,023 \$126,022 \$192,023 \$425,370 \$248,900 \$199,000 \$441,100 \$771 \$1542 \$1,622,390	1 1 2 1 2 5 4 3 1 3 3 5	\$150 \$163 \$170 \$162 \$170 \$178 \$180 \$129 \$572 \$572 \$516 \$678	\$600 \$653 \$679 \$649 \$679 \$711 \$721 \$516 \$572 \$516 \$678	137	80% sold, 70% of sales fractional
1	Rising Bear Lodge	2004	2004	38	Single ownership	38	1,012 \$530,000	2	\$524	\$524	38	Sold-out
1	Tree Top	2004	2004	74	Single ownership	74	2,393 \$1,399,999 \$649,000 \$1,450,000 \$549,000 \$1,450,000 \$621 \$1,450,000	4 2 4 4 2 4	\$565 \$472 \$600 \$917 \$553	\$565 \$472 \$600 \$917 \$553	74	Sold-out
1	Heartstone Lodge	2004	2007	38	Single ownership	38	2,621 \$1,450,000	4	\$451	\$451	38	Sold-out
1	Founder's Lodge	2005	2006	47	Single ownership	47	1,350 \$495,000 \$650,000 \$695,000 \$470,000 \$495,000 \$1,350 \$650,000 \$695,000	2 3 3 2 3 2 3	\$367 \$410 \$333 \$451 \$367 \$410 \$333	\$367 \$410 \$333 \$451 \$367 \$410 \$333	47	Sold-out
2	Founder's Lodge	2007	-	47	Single ownership	47	2,090 \$695,000	3	\$333	\$333		Pre-sales
Sugarbush Lincoln Peak Village: 3 new buildings - retail w/ condo-hotel: http://www.sbs.sugarbush.com/PhasesAll.html												
Otomo: Coolidge House (see above)												

<sup>62</sup> New York Times, 2007, Vermont Business, 2006, [Alpine Crest], 2011

Exhibit 3.9

## Alpine Crest Comparable Property Analysis (cont)

Resort / Time	Year Completed	Project	Type	Product Type	Absorption Data					
					Shares Sold	Months	Avg Shares / Month	Avg Price / Share /SF	Avg Revenue / Month /SF	
Okemo 2007	2004	Jackson Gore	Fractional	Condo	428	24	19.5	\$136	\$2,647.57	
	2007	Adams House	Fractional	Condo	124.8	36	3.5	\$110	\$382	
	2007	Bixby House	Single	Condo	27	12	2.3	\$514	\$1,157	
Sugarbush: 2008	2006	Claybrook	Fractional	Condo	137	48	2.8	162.8	463.3	
	2006	Claybrook	Single	Condo	59	48	1.2	588.8	718.3	
	2004	Rising Bear	Single	Condo						
Stratton: 2008	2004	Tree Top	Single	Townhomes						
	2006	Founders	Single	Condo	47	12	3.9	389.9	\$1,527	
	2007	Heartstone	Single	Condo	38	36	1.1	685.2	\$723	
	-	Founders	Single	Condo						
Fractional AVG 06-07 shares sold/month										3.2
Fractional AVG price / share / SF										\$136
Fractional revenue / month / SF										\$430
Single Avg 06-07 shares sold/month										2.1
Single AVG price / share /SF										\$544
Single revenue / month / SF										\$1,149

An additional component of the condominium developments outlined above is that several are structured as condominium-hotels, an arrangement under which units are first sold as either whole ownership or fractional sales, and owners subsequently have the opportunity to place units into a hotel pool. Revenue from hotel rents is then split between developer and condominium owner, generally in the neighborhood of 50% accruing to each party.

Although there are only limited data points for analysis, the trend appears to be that since Jackson Gore's initial fractional offering in 2004, the appeal of this ownership type has steadily decreased since the 2004 pace of nearly 20 shares per month. Analysis of the subsequent data points from deals completed in 2006 and 2007 reveals that average shares sold per month across projects has decreased to 3.2. While no sales pace data could be located for the whole ownership deal from 2004, 2006 and 2007 figures revealed that average sales per month revealed a pace of 2.1 units per month. Coupling this data with the knowledge that the average price per share of fractionals / SF was \$136 versus whole ownership price per SF at \$544, the slow pace of fractional sales yields a revenue per square foot of \$430 per month, as compared to whole ownership revenue of \$1,149.

Diluting the usefulness of this conclusion is the fact that the feeder market for the two southern Vermont properties utilized in the above study differs from both Sugarbush and Alpine Crest. In contrast to the Massachusetts-oriented feeder market anticipated to provide the majority of demand for Alpine Crest, Okemo and Stratton draw from a primary market area of New York and Connecticut. This is evidenced by a license plate study conducted for Okemo Mountain which showed the percentage of vehicles parked within its lots on the busiest day of the 06-07 season which showed percentages of patrons from the following states: Connecticut – 24%, New York – 22%, New Jersey and Vermont – 16% each, Massachusetts – 13%, New Hampshire – 4 %, all other states – less than 4%.<sup>63</sup> Yet based upon our drive-time radius threshold of approximately 4 hours, this makes sense, as the distance from New York City to Okemo Mountain can be traveled in just over 4 hours, as compared with 5.5 to from Manhattan to Alpine Crest.

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<sup>63</sup> ULI Resort Development Handbook, 2008

Therefore, in addition to the intangibles associated with a lesser sense of place at comparable properties as compared to Alpine Crest, differences associated with buying preferences of a different feeder market associated with two out of the three comparable properties needs to be acknowledged.

Nevertheless, there is still value in understanding the data associated with the above analysis and summarized below:

Fractional AVG 06-07 shares sold/month	3.2
Fractional AVG price / share / SF	\$136
Fractional revenue / month / SF	\$430
Whole owner AVG 06-07 units sold/month	2.1
Whole owner AVG price / unit /SF	\$544
Single revenue / month / SF	\$1,149

Based upon this data, the conclusion is drawn that due to the similar pace of sales between product types, a whole ownership sale product is likely to be more successful at Alpine Crest than a fractional program. In addition, at a pace 2.1 units sold per month within the price range of \$544 / SF, approximately 25 units would be sold per year.

While this knowledge is insightful, it does not provide the full picture of what a forecast would look like for a product offered in the quality and luxury level of \$700/SF for the \$1.7MM product and/or with a large data sample size from Alpine Crest's same feeder market. For an absorption model to predict this, a new methodology is theorized and applied below.

#### "Sense of Place" Absorption Model ("SOP Model"):

This proposed methodology employs the underlying concept of the Product Differentiation model through the concept of 'like-minded individuals'. As discussed earlier in this case study, this product will appeal to affluent families from Massachusetts who not only enjoy outdoor activities but also are attracted to quaint and historic New England villages that have come to experience a second life through the adaptive reuse and transformation of their historic structures to house high end restaurants, shops and galleries.

Due to its physical attributes, as well as sense of place, the island of Nantucket, MA could also fit the above description. To advance the argument one step further, it will now be postulated that, as Nantucket is also within its own 3.5 – 4 hour drive-time radius (including

Nantucket in this area after factoring in boat or plane travel time) of the Massachusetts \$200,000 + feeder market, Alpine Crest and Nantucket share a large overlap between their feeder markets. This argument is substantiated as follows:

Situated thirty miles off the coast of Massachusetts, Nantucket Island was considered the whaling capital of the world from 1800 to 1840. With the discovery of petroleum based fuels, the island's industrially functional life ended and its historic infrastructure sat idle yet intact until its rebirth as a tourist enclave and second home haven, beginning around 1900.<sup>64</sup> Due to a concerted preservation effort motivated by tourism, over 800 pre-civil war buildings remain standing on the 47 square mile island.<sup>65</sup> Interspersed within these buildings are a high-end multitude of restaurants, shops and art galleries, with the natural beauty of the rolling beaches and the Atlantic Ocean serving as its backdrop. With the average price of a single family home peaking in 2006 at \$2,438,000 and 89% of property owners establishing their primary residence off-island<sup>66</sup>, Nantucket has clearly established itself as a vacation home destination for the wealthy elite. While the small island town has achieved "fly-to" Phase Four status<sup>67</sup>, many of architectural traits and "sense of place" that their historic charm helps to foster bear a strong resemblance to Sunny Gulch. Examples of this are both communities' sophisticated restaurants, antique shops and art galleries housed within quaint, timeworn buildings. For example, as referenced above, Sunny Gulch is home to 160 structures constructed before 1910, as compared to 800 pre-Civil War buildings on Nantucket.

This overlap in feeder populations is hypothesized with emphasis upon buyers of Alpine Crest's highest forecasted real estate product. Substantiation for this argument is as follows:

- 1) Sunny Gulch and Nantucket have similar qualitative character of New England charm fused with high-end luxury

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<sup>64</sup> Burns, 2011

<sup>65</sup> ibid

<sup>66</sup> Denby Real Estate Inc, 2011

<sup>67</sup> Although an island by nature would have air travel as a primary means of transportation, Nantucket receives a critical mass of tourists each year from across the country

- 2) Although Nantucket is a “fly-to” Phase Four resort with 89% of property owners having their primary residence off-island, the largest group behind that of year round island residents is Massachusetts main-land-residents owning property on Nantucket, at 38%<sup>68</sup>
- 3) Looking at a snapshot of the year 2008, the only year in which a percentage breakdown of residential real estate transactions by state was readily available, Massachusetts residents accounted for 74% of the 174 homes purchased on Nantucket.<sup>69</sup>
- 4) This feeder market for Nantucket has a demonstrated history of purchasing top of market second homes. In combination with the above fact that 89% of property owners live off-island, indicating the vast majority of residential transactions are for vacation residencies, the island’s sales history confirms that Nantucket is truly top of market for second home sales in the region. In 2003, the average price of homes sold on the island achieved a record value of \$2,438,000. By the end of 2010, this price had declined slightly to \$2,200,000<sup>70</sup>

For the above reasons, it is believed that Alpine Crest and Nantucket have a significant overlap in their pool of potential buyers for each community’s high-end vacation homes: Eastern Massachusetts residents with annual household incomes in excess of \$277,000 purchasing second homes at prices averaging \$1,700,000 to \$2,200,000. It is hypothesized that an analysis of the relationship between this ‘like-minded individuals’ resort market and interaction with the overlapping feeder market can be used to forecast absorption data related to the Alpine Crest development.

Likewise, it is postulated that the fifteen communities comprising the peninsula of Cape Cod in southeastern Massachusetts share a great deal of overlap with the forecasted Alpine Crest feeder market for lower priced range of product, approximately at \$350,000. In addition to the fact that the eastern Massachusetts \$100+ drive ring radius sits within the four hour proximity to Cape Cod, the substantiation for this argument is articulated as follows:

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<sup>68</sup> Denby Real Estate Inc, 2011

<sup>69</sup> ibid

<sup>70</sup> ibid

- 1) 35% of homes on Cape Cod are owned by households whose primary residency is not located on Cape Cod. These owners identify their properties as vacation homes
- 2) 57.5% of Cape Cod vacation property owners report their primary residence to be in Massachusetts, 71.1% from all New England states and 87.7% from the northeastern United States<sup>71</sup>.
- 3) The average price of a home on Cape Cod in 2007 was found to be \$474,500<sup>72</sup>.
- 4) 4) Many of Cape Cod's towns harbor the historic, high-end tourism and cultural attributes of Sunny Gulch. Thousands of structures across the Cape are listed on the National Register of Historic Places<sup>73</sup>. One example of a comparable 'sense of place' created by Sunny Gulch's central village is that of lower Cape Cod's town of Chatham and it's Old Village National Register Historic District, filled with restaurants, art galleries and high-end shops

A map showing Nantucket and Cape Cod is shown below as Exhibit 3.10.

After having identified these two resort markets with strong parallels to Alpine Crest, the next step is to analyze the sales history of each with respect to the target feeder market. Nantucket's sales history is outlined in Exhibit 3.11.

In an effort to approximate the true number of Massachusetts off-island residents purchasing homes on the island each year, the 38% of off-island property owners coming from main land Massachusetts was assumed to remain constant. In order to keep this percentage constant, total sales each year by Massachusetts residents would need to account for 38% of annual sales. Using this logic and assumption, the values of annual sales of Nantucket homes and vacant lots to Massachusetts residents were calculated. The results are displayed on the following page in Exhibit 3.12.

Next, a target year is selected from this Nantucket – Massachusetts buyer approximation data set. In an attempt to remain consistent with earlier efforts to analyze data from the vantage point of a Phase One feasibility analysis conducted in 2005, data from that year will be utilized. As such, 223 main land Massachusetts residents are predicted to have

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<sup>71</sup> ibid

<sup>72</sup> Massachusetts Association of Realtors, 2011

<sup>73</sup> Cape Cod Commission, 2011

Exhibit 3.10

**Map of Nantucket and Cape Cod**



Exhibit 3.12

Nantucket Island: Total Sales History and Forecasted Annual MA Off-Island Resident Purchases				
Year	Homes	Lots	Commercial	MA Forecasted Buyers: Total Island Composition
1990	161	153	19	61
1991	203	201	18	77
1992	257	231	19	98
1993	319	235	7	121
1994	315	293	19	120
1995	325	236	9	124
1996	325	288	19	124
1997	349	232	15	133
1998	418	269	32	159
1999	388	201	32	147
2000	389	185	15	148
2001	240	137	14	91
2002	302	125	11	115
2003	361	148	16	137
2004	468	176	41	178
2005	398	117	22	151
2006	284	59	9	108
2007	301	46	5	114
2008	174	32	14	66
2009	164	35	5	62
2010	223	23	9	85



purchased second homes on Nantucket in 2005.

An examination of the average sale price of homes on Nantucket in 2005 reveals a price of approximately \$2,200,000. Returning to our backwards-working approach employed earlier in this case study, we see that this average vacation home value also correlates to the same \$200,000 minimum threshold average household annual income. Therefore, an identical pool of feeder market communities will be selected as Massachusetts resident Nantucket feeders as Alpine Crest feeders. This chart has already been included above as Exhibit 3.4.

However, there is one major, identifiable difference between the general pool of feeder communities identified above and those that would consider purchasing resort real estate at Alpine Crest: the ability to ski. Despite all of its charm and culture, it is assumed that nearly all purchasers of vacation homes on the grounds of an alpine ski resort would consider themselves participants in the sport. Therefore, before this absorption analysis can be completed, the general pool of Massachusetts feeders must be distilled down to the percentage that ski.

In studies conducted in the West and Midwestern states, it was believed that approximately 1% of the regional population participated in alpine skiing<sup>74</sup>. However, it is well documented that skiers represent an above average level of wealth, with one study finding skiers across different regions to have income levels 25% to 30% above each area's respective median income<sup>75</sup>. Therefore, it follows that the pool of affluent citizens comprising the households representing the Nantucket feeder market would participate in the sport of skiing at a rate higher than 1%. Yet how can an accurate attempt be made to calculating what the true, applicable percentage is?

The answer hypothesized is as follows: Calculate the number of wealthy New England skiers as a percentage of total wealthy New Englanders. For purposes of our analysis, "wealthy" skiers will be defined as those skiers with annual household incomes in excess of \$100,000. This methodology was conducted as follows:

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<sup>74</sup> *The Skier: His Characteristics and Preferences*, William Lueschner & Roscoe Herrington, (undated- 1970s)

<sup>75</sup> Ibid

Total skier visits to New England mountains in 2005 was found to be 13,661,000<sup>76</sup>. “Due to the ‘drive-to’ nature of these mountains, it is believed that the vast majority of these ski days were generated by New England resident skiers. According to the National Ski and Snowboard Retailers Association, each skier in the United States averaged eight days of skiing in 2005<sup>77</sup>. Therefore, 1,707,625 individual New England residents skied during the 2005 season. Of these skiers, 40.5% had annual incomes over \$100,000<sup>78</sup>. This equates to 691,588 New England skiers with incomes over \$100,000.

In order to determine what percentage of total \$100,000+ New England citizens were skiers, we need to tally the total number of citizens of New England States belonging to households earning incomes greater than or equal to \$100,000. The definition of “New England mountains” utilized above encompasses those ski areas in the states of Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut and New York. Therefore, total households meeting the \$100,000 threshold or above in these seven states in 2005 were tallied. The total number of households was 3,234,000. In order to receive an ‘apples to apples’ comparison, households needed to be converted into people. As the national average household size in 2005 was 2.59<sup>79</sup>, this value was multiplied by total New England \$100,000+ households to arrive at the figure of 8,376,060 New England residents being members of households earning at least \$100,000 in 2005.

Finally, 691,588 New England skiers from households earning \$100,000+ is divided by total people from New England households with incomes of \$100,000+. This yields a value of 8.3%. Therefore, in contrast to the 1% of the general population that participates in the sport of skiing, 8.3% of New England households with incomes greater than or equal to \$100,000 are skiers.

With all data need to complete our annual absorption forecast, we complete the final calculations. In order to calculate the absorption rate of our Massachusetts feeder communities on Nantucket, we divide our 2005 estimate of sales of Nantucket homes to Massachusetts main

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<sup>76</sup> Kottke *National End of Season Survey, 2009-2010*, RRC Associates, Table 6, Pg. 15

<sup>77</sup> National Ski and Snowboard Retailers Association, 2010

<sup>78</sup> *ibid*

<sup>79</sup> US Census, fact-finder, 2005

land residents of 178 by the total Massachusetts feeder market of 70,366 households. This yields a capture rate of 0.25%.

With this knowledge in hand regarding the relationship between a resort market with very similar traits to the subject development, to forecast the absorption rate of the feeder market with respect to Alpine Crest, we first multiply the Massachusetts feeder market pool of 70,366 households by 8.3% in order to distill down the pool to those affluent households that also ski. This leaves 5,480 households as potential purchasers of Alpine Crest second homes. From here, the penetration rate of 0.25% is applied to this target population of households. The resulting value of 15 households corresponds to the forecasted annual rate of absorption for Alpine Crest real estate for second homes in the \$1,700,000 to \$2,200,000 price range. A table displaying this data is presented below as Exhibits 3.13 and 3.14.

Exhibit 3.13

New England Households Earning Over \$100K Annually				
	100 - 149	149 - 199	200 +	Total
MA	405	169	172	746
NH	82	30	24	136
CT	224	91	110	425
NY	960	394	451	1805
ME	51	16	11	78
VT	29	8	7	44
Total \$100K NE Households				<b>3,234,000</b>
Total persons living in \$100K+ HHs (x 2.59)				<b>8,376,060</b>
Total New England Ski Visits			13,661,000	
Average Skier Days / Yr			8	
Unique NE Skiers			1,707,625	
40.5% from \$100K+ HHs			691,588.13	
Percentage of NE \$100K HH that ski			8.3%	

Exhibit 3.14

<b>Alpine Crest Forecasted Annual Absorption Rate: 2005 (\$1.7MM+ units)</b>				
Rank	Municipality	State	Average Household Income	Number of Returns Filed
1	Weston	MA	\$531,374	5,055
2	Wellesley - Wellesley Hills	MA	\$364,281	6,556
3	Concord	MA	\$214,521	7,991
4	Boston - Back Bay	MA	\$248,469	9,895
5	Wayland	MA	\$219,808	6,382
6	Newton - Chestnut Hill	MA	\$239,380	7,094
7	Newton - West Newton	MA	\$207,217	5,412
8	Dover	MA	\$361,394	2,663
9	Lincoln	MA	\$274,216	2,690
10	Boston - Beacon Hill	MA	\$429,103	2,357
11	Boston - downtown	MA	\$340,744	2,790
12	Newton - Waban	MA	\$230,400	2,635
13	Manchester by the Sea	MA	\$226,405	2,607
14	Boston - waterfront	MA	\$238,741	3,008
15	Sherborn	MA	\$255,389	2,044
16	Boston - Back Bay	MA	\$311,283	956
17	Beverly - Prides Crossing	MA	\$414,502	231
			<b>Total Household Pool</b>	70,366
			<b>Skiing pool @ 8.3%</b>	5,840
			<b>Capture rate of ACK @ 0.25%</b>	<b>15</b>

Applying the above methodology for all years during which Alpine Crest was engaged in the Phase One sales process, the following forecast of demand for units in the \$1,500,000 - \$2,200,000 range is derived:

Exhibit 3.15

<b>Sense of Place Model Annual Absorption FORECAST: MA as only feeder</b>								
	2004	2005	2006	2007	2008	2009	2010	TOTAL
<b>Over \$1,500,000</b>	11	15	13	9	9	5	5	68

In order to forecast sales of Alpine Crest real estate in the \$350,000 range, we run through the entire above analysis with respect to Cape Cod home sales distilled down to the believed percentage of annual sales derived from Massachusetts buyers with primary residencies elsewhere in the state (the forecasted Alpine Crest primary feeder market). The effort is outlined below in Table 3.16. The relevant calculations for this procedure are 35% of all Cape Cod homes being owned as second residencies and 57.5% of this percentage being owned by Massachusetts off-Cape residents. After tabulating this value for each year, the identified

MA feeder market purchasers must be screened to the skier-only population. As the target market here still has an annual income, per our feeder market analysis, of \$100,000 or higher, the same filter of 8.3%, calculated above, can be applied to this forecasted pool of lower value Alpine Crest real estate buyers.

Exhibit 3.16

<b>Cape Cod: Sales History and Forecasted Massachusetts Off-Cape MA Resident Homeowners</b>							
<b>Year</b>	<b>Single</b>	<b>Condo</b>	<b>Multi</b>	<b>Total</b>	<b>Total 2nd homes</b>	<b>MA forecasted Buyers</b>	<b>Screened For Skiers @ 8.3%</b>
1991	1773	168		1941	679.35	390.62625	32
1992	2324	241		2565	897.75	516.20625	43
1993	2537	279		2816	985.6	566.72	47
1994	2751	344	32	3127	1094.45	629.30875	52
1995	3120	444	32	3596	1258.6	723.695	60
1996	3691	546	63	4300	1505	865.375	72
1997	4185	618	74	4877	1706.95	981.49625	81
1998	5034	782	77	5893	2062.55	1185.96625	98
1999	4075	720	74	4869	1704.15	979.88625	81
2000	3693	675	90	4458	1560.3	897.1725	74
2001	3821	700	85	4606	1612.1	926.9575	77
2002	4075	831	80	4986	1745.1	1003.4325	83
2003	4103	851	85	5039	1763.65	1014.09875	84
2004	4663	993	126	5782	2023.7	1163.6275	97
2005	3986	1033	100	5119	1791.65	1030.19875	86
2006	3194	767	88	4049	1417.15	814.86125	68
2007	3129	726	59	3914	1369.9	787.6925	65
2008	3043	656	61	3760	1316	756.7	63
2009	2919	444	74	3437	1202.95	691.69625	57
2010	3119	648	24	3791	1326.85	762.93875	63

The total forecast for Alpine Crest real estate at each price level is summarized below in Exhibit 3.17:

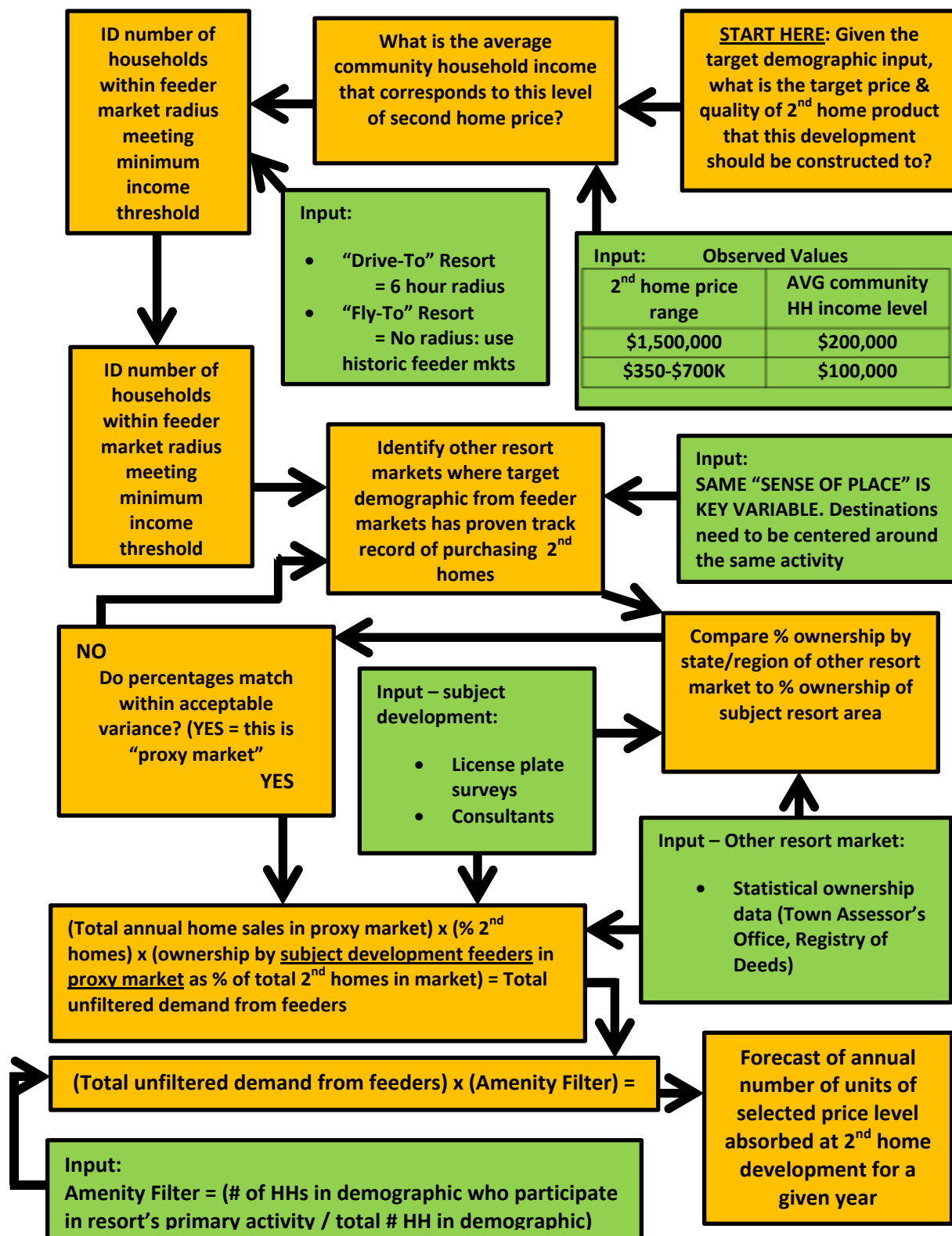
Exhibit 3.17

<b>Sense of Place Model Annual Absorption FORECAST: MA as only feeder</b>								
	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>TOTAL</b>
<b>Over \$1,500,000</b>	11	15	13	9	9	5	5	68
<b>\$350,000 - \$700,000</b>	97	86	68	65	63	57	63	499
<b>TOTAL Annual</b>	108	100	80	74	72	63	68	566

The Sense of Place Absorption Model, used in its entirety to complete the above calculations, is depicted graphically as Exhibit 3.18 below.

Exhibit 3.18

### Sense of Place Absorption Model



### **IIc: Conclusions Drawn from Back-Testing:**

The above forecasting conclusion is next compared against the actual sales data for Alpine Crest Phase One build-out, beginning with first sales in 2004 and following through to end of year 2010. For purposes of this analysis the sale of fractional units are not included in the data set. The rationale behind this decision is due to the belief that the limited right of use to a unit for a fractional buyer makes the motivations for purchasing fractional product differ from the decision to purchase a whole ownership unit. In many ways, fractional ownership resembles a locked-in rate on a hotel room more closely than it does owning a vacation property under whole ownership. As such, there is reason to believe that fractional sales are impacted greatly by the price of hospitality accommodations and would not respond to the SOP absorption analysis based on whole ownership proxy products. Further research into this theory regarding the relationship between fraction and hospitality product through the use of econometric regression analysis would be useful.

As Alpine Crest represents a real world case study, sales history data remains sensitive and some components will be unavailable for publication. However, the following information reflects actual sales data for the project:

#### **Feeder Market Real World Data vs Forecast**

While it was hypothesized that Alpine Crest was a Phase Two resort and therefore, would have a feeder market comprised predominantly of 'drive-to' consumers from Massachusetts (see Exhibit 3.4 and 3.5 for forecasted feeder markets), the actual Alpine Crest buyer-base drew from a wider geographic region than the predicted four-hour drive radius. The actual percentage of buyers according to state of primary residency is presented as Exhibit 3.19.

Exhibit 3.19

Alpine Crest Whole Ownership By State		
Rank	State	Percentage Ownership
1	MA	33.1%
2	NY	14.3%
3	CT	9.8%
4	NJ	8.3%
5	PA	6.0%
5	FL	6.0%
7	VT	5.3%
7	MD	5.3%
9	VA	3.8%
10	ME	2.3%
11	NH	1.5%
11	PR	1.5%
11	RI	1.5%
11	CO	1.5%
11	CA	1.5%
16	IL	0.8%
16	Quebec	0.8%
16	GA	0.8%
16	IN	0.8%
16	MI	0.8%
16	OH	0.8%
16	Ontario	0.8%
16	SD	0.8%
16	UT	0.8%

As seen, Massachusetts only accounts for 33% of whole ownership buyers. Total demand from the New England states<sup>80</sup> represents only 53.4% of Alpine Crest real estate purchasers. While 82% of demand has come from the northeastern United States<sup>81</sup>, outliers such as multiple owners from Puerto Rico, single representation from South Dakota, California and Michigan exist. It is of interest to note that there are several owners from states with world-class “fly-to” skiing such as Colorado and Utah. However, representing a percent of total ownership under 20%, these non-driving outliers do not constitute the primary clientele purchasing whole ownership Alpine Crest real estate.

Although only comprising 33% of total whole ownership demand, Massachusetts does represent the largest feeder market. A brief examination of the forecasted rank ordering of the \$200,000+ Massachusetts communities believed to stand the best chance of representing feeder towns, originally forecasted in Exhibit 3.7, is presented below with contrasting actual results<sup>82</sup>:

<sup>80</sup> Defined as MA, NH, VT, ME, VT, RI, CT

<sup>81</sup> New England states with NY, NJ, PA added

<sup>82</sup> Fractional ownership included in this calculation



Exhibit 3.20

Alpine Crest Forecasted MA Top Feeders: Actual Performance			
Forecasted Rank	Actual Rank	Municipality	Frequency
1	2	Weston	6
2	9	Wellesley - Wellesley Hills	3
3	-	Concord	1
4	3	Boston - Back Bay	5
5	-	Wayland	0
6	7	Newton - Chestnut Hill	3
7	3	Newton - West Newton	4
8	-	Dover	0
9	-	Lincoln	1
10	8	Boston - Beacon Hill	3
11	-	Boston - downtown	0
12	-	Newton - Waban	1
13	-	Manchester by the Sea	0
14	-	Boston - waterfront	1
15	-	Sherborn	0
16	-	Boston - Back Bay	0
17	-	Beverly - Prides Crossing	1

Actual rankings were based upon total number of units purchased at Alpine Crest Phase One. In the event that multiple towns had the same number of total transactions, towns were sub-ranked according to collective value of units a town's aggregate purchased. Upon analysis of the results, results were mixed. Only six of the forecasted top seventeen towns achieved rankings in the true top seventeen positions, equating to a 35% successful forecasting rate. However, of better success was the fact that eleven out of the seventeen forecasted communities did record at least one real estate purchase, translating to 65% accuracy by this metric.

Top actual MA feeders are as listed on the following page as Exhibit 3.21:

Exhibit 3.21

Alpine Crest Top Actual Feeder Communities			
Rank	Zip Code	Town	Frequency
1	01890	Winchester	6
2	02493	Weston	6
3	02116	Boston - Back Bay	5
4	02465	West Newton	4
5	01915	Beverly	3
5	02138	Cambridge	3
7	02467	Chestnut Hill	3
8	02108	Boston - Beacon Hill	3
9	01810	Andover	3
9	02481	Wellseley	3
11	01945	Marblehead	3
12	02186	Milton	2
13	02043	Hingham	2
14	02066	Scituate	2
15	01776	Sudbury	2

Overall, the major lessons learned from the analysis of actual feeder markets reveals the following conclusions:

- 1) A total season's percentage of out of state license plates at Alpine Crest matched percent composition of Phase One real estate buyers from top 13 states to an average variance by state of within 1.84%: This relationship was not readily available from the empirical data initially provided from the complete license plate survey. In order to garner this relationship amongst the top thirteen states, the home state of Alpine Crest had to be removed from the license plate state total percentages. Once this data was recalculated as a completely out-of-state plate survey and analyzed against percentage ownership by state amongst purchasers of whole owners of Alpine Crest real estate, the relationship was evident. While upon first glance, this relationship may seem intuitive, yet it is of tremendous insight when one considers that Alpine Crest's Phase One whole ownership offerings consisted of only 133 units, as compared to literally hundreds of thousands of skier visits during the 2009-2010 entire season during which the license plate survey data was compiled. The ratio of units sold to skier visits is in the range of

hundredths of one percent. The results of this study also serve to affirm that, despite some percentage of demand coming from “fly-to” distances, Alpine Crest can be confirmed as a “drive-to” destination. The prediction power of this data and ramifications for other projects as a metric for feeder market identification are robust.

Exhibit 3.22

<b>Alpine Crest Out of State License Plate Study of Top 13 States</b>			
<b>Owner States</b>	<b>Ownership Percentage By State</b>	<b>Seasonal Total % Out-Of-State License Plates</b>	<b>Variance</b>
MA	31.6%	36.6%	5.0%
NY	14.3%	16.7%	2.4%
CT	11.9%	11.7%	-0.2%
VT	6.1%	n/a	n/a
PA	5.3%	3.3%	-2.0%
NJ	4.9%	8.3%	3.4%
FL	4.1%	0.0%	-4.1%
MD	2.9%	1.7%	-1.2%
NH	2.9%	3.3%	0.4%
VA	2.9%	1.7%	-1.2%
PR	2.0%	0.0%	-2.0%
RI	2.0%	1.7%	-0.3%
CO	1.2%	0.0%	-1.2%
ME	1.2%	1.7%	0.5%
<b>Average Variance (Absolute Value)</b>			<b>1.84%</b>

- 2) The composition of ownership by state of Alpine Crest Phase One real estate matches the composition of Nantucket real estate owned by off-island property owners within an average variance by state of only 2.9%:

Exhibit 3.23

<b>Alpine Crest and Nantucket Off-Island Ownership Analysis</b>			
<b>Owner States</b>	<b>Nantucket Off-Island Ownership</b>	<b>Alpine Crest Ownership Percentage By State</b>	<b>Variance</b>
MA	37%	31.6%	-5.4%
NY	10%	14.3%	4.3%
CT	10%	11.9%	1.9%
VT	0%	6.1%	6.1%
PA	4%	5.3%	1.3%
NJ	6%	4.9%	-1.1%
FL	4%	4.1%	0.1%
<b>Average Variance (Absolute Value)</b>			<b>2.9%</b>

This finding lends a good deal of credence to the SOP Method employed in the absorption analysis phase of this demand analysis, in which Nantucket is utilized as a proxy for Alpine Crest real estate. In strengthening the rationale underpinning the relationship between these two locations, it makes a strong case to take data from

all seven above states as it relates to Nantucket home sales when forecasting Alpine Crest real estate. This process will be undertaken below.

As with Point # 1 above, the finding of the strong relationship between these two seemingly different locations, with one being a cold weather and the other warm weather resort destinations, demonstrates the various geographic and recreational typologies that a similar 'sense of place' can translate across for a common group of 'like-minded people'. This finding can have far reaching implications for analysis of various second home products.

3) The feeder market drive time radius of 3.5 to 4 hours is too small:

Based upon the feeder markets from which Alpine Crest drew the majority of its buyers for Phase One real estate, the radius for a "drive-to" resort should be expanded to a minimum of six hours. This result appears to hold true for both whole and fractional ownership product types.

4) Average and median income across all Massachusetts communities from which buyers of Phase One whole ownership came from was \$222,988 and \$207,819, respectively<sup>83</sup>:

This data aids greatly in corroborating the \$200,000 cut-off limit for high-value real estate transactions that was utilized for forecasting purposes, as the value was derived without the benefit of knowing the exact distribution shape and standard deviation of incomes across a given community. For sake of comparison, Massachusetts fractional owners came from communities with average and median household incomes of 182,686 and \$142,990.

**Absorption Model Real World Data vs Forecast**

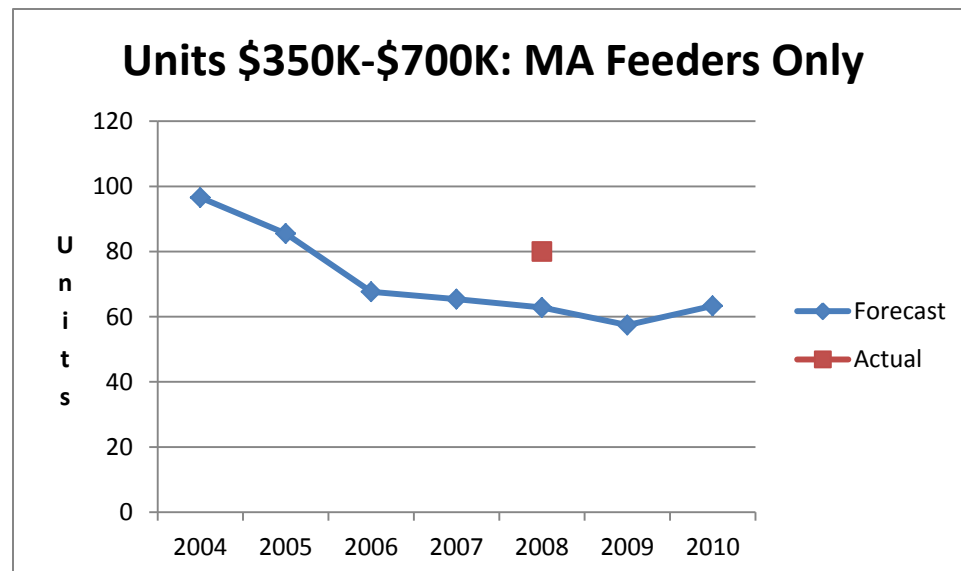
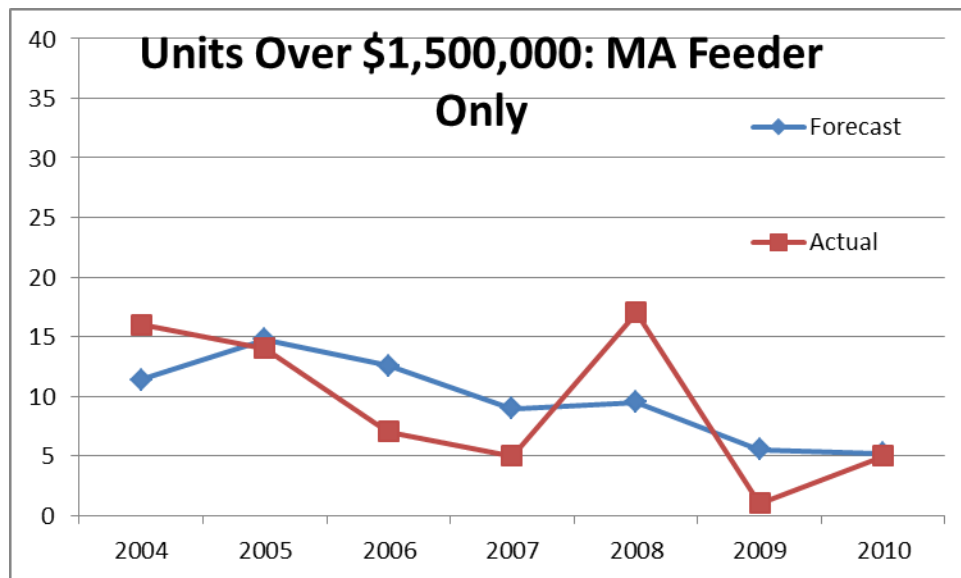
The following values represent actual and forecasted sales during the development of Phase One through the absorption SOP Method methodology employed above. As noted in the absorption section, as Massachusetts was believed prior to the results of the back testing to be the only major feeder market from which Alpine Crest would draw demand, this initial absorption forecast only screened Nantucket and Cape Cod proxy second home sales for believed Massachusetts residents:

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<sup>83</sup> Values weighted according to number of purchasers from each town

Exhibit 3.24

Absorption History versus Sense of Place Forecast: MA Feeder Only								
	2004	2005	2006	2007	2008	2009	2010	TOTAL
Over \$1,500,000 actual	16	14	7	5	17	1	5	65
Over \$1,500,000 forecast	11	15	13	9	9	5	5	68
Variance	5	-1	-6	-4	8	-4	0	-3
Average Variance / Year								-0.4
\$350 - \$700,000 actual	-	-	-	-	80	sold-out	sold-out	80
\$350 - \$700,000 forecast	-	-	-	-	63	-	-	63
Variance	-	-	-	-	17	-	-	17
Average Variance / Year								2.5



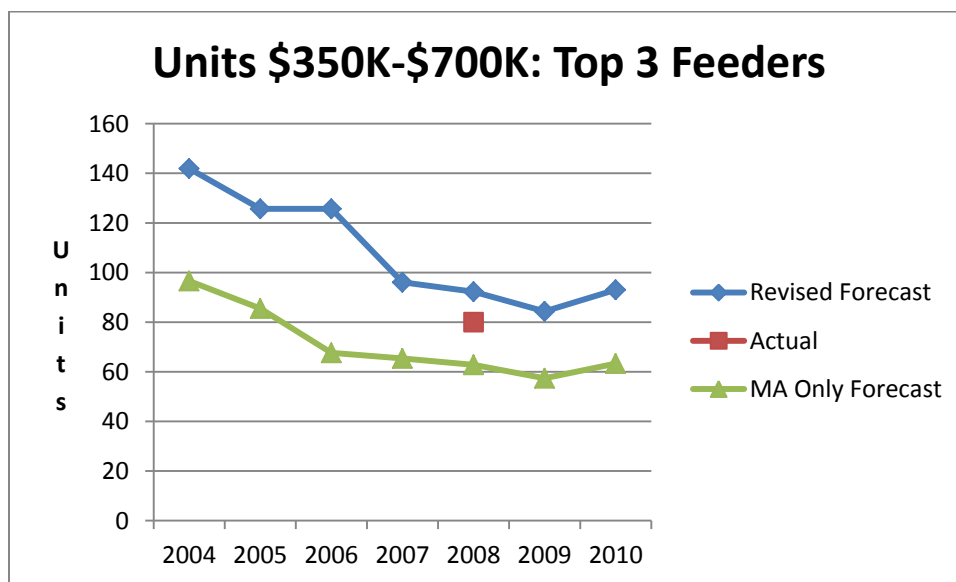
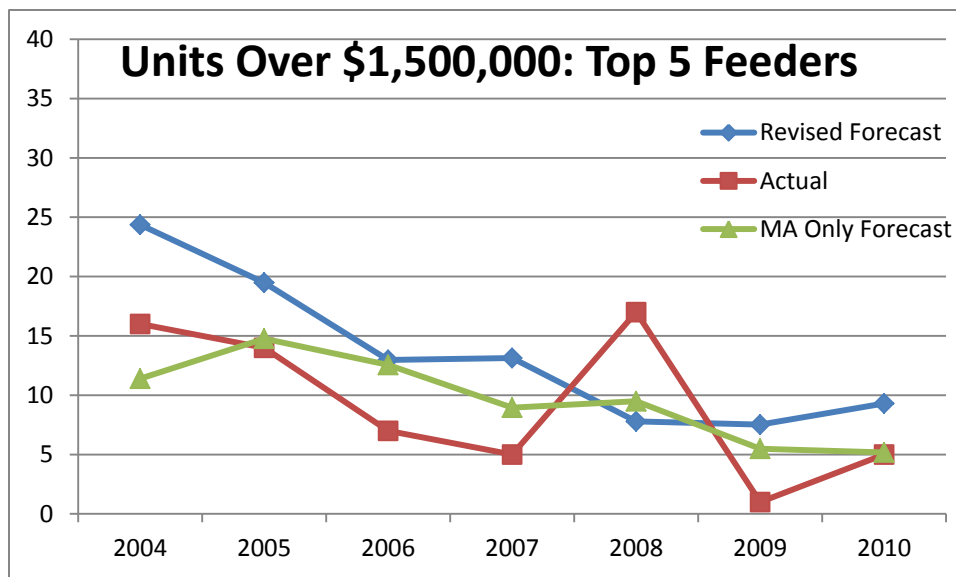
In comparing the forecasting versus actual variance between the Traditional Absorption Forecasting Model and the Sense of Place Model (SOP Model), it is concluded that the SOP Model provides a more accurate means of forecasting absorption of Alpine Crest data than does the Traditional model. The Traditional Model forecasted a static absorption rate of 25 units / year for the \$350-700,000 product range, with a variance to true unit sales of 55 units. The model offered no forecast for the \$1.7MM range. The dynamic results of the SOP have been analyzed above in Exhibit 3.24. With data collected over the same time period, this model had a total variance of only 17 units for the \$350-700,000 range and a mere 3 units in the \$1.7 MM range.

In light of information garnered from the analysis of back-testing results for feeder market data that (1) Massachusetts does not represent the sole feeder market but rather, is one of a collection of northeastern US markets providing demand for the development project and (2) this same composition of feeder markets has a major overlap with the composition of ownership on Nantucket (within 3%) and Cape Cod. For this reason, the Sense of Place Model for absorption forecasting will now be rerun with the perceived percentages of second home owners purchasing homes on Nantucket and Cape Cod from each demonstrated feeder market state. To review the methodology employed within the Sense of Place Absorption Model Framework, refer to Exhibit 3.18:

The refined forecast provides the following results shown as Exhibit 3.25:

Exhibit 3.25

Absorption History versus Sense of Place Absorption Forecast: All Major Feeder Markets								
	2004	2005	2006	2007	2008	2009	2010	TOTAL
Over \$1,500,000 actual	16	14	7	5	17	1	5	65
Over \$1,500,000 forecast	24	19	13	13	8	8	9	95
Variance	-8	-5	-6	-8	9	-7	-4	-30
Average Variance / Year								-4
\$350 - \$700,000 actual	-	-	-	-	80	sold-out	sold-out	80
\$350 - \$700,000 forecast	-	-	-	-	92	-	-	92
Variance								-12
Average Variance / Year								-1.8



The following Exhibit 3.26 depicts the charts utilized to calculate the above forecast:

Alpine Crest Forecasted Annual Absorption For \$1.7MM+ Units Based Upon Nantucket Sales History: All Feeders																
ACK Actual Sales History				Forecasted Total Annual Buyers By State From Feeder Markets							Total Alpine Crest Demand for \$1.7MM Units By State					
Year	Homes	Lots		MA = 37%	NV = 10%	CT = 10%	PA = 4%	NJ = 6%	Total = 71%		MA = 32%	NV = 14%	CT = 12%	PA = 5%	NJ = 5%	
1990	161	153		116	31	31	13	19	210		66	30	25	11	10	143
1991	203	201		149	40	40	16	24	271		85	39	32	14	13	184
1992	257	231		181	49	49	20	29	327		103	47	39	17	16	222
1993	319	235		205	55	55	22	33	371		117	53	44	20	18	253
1994	315	293		225	61	61	24	36	407		129	58	48	22	20	277
1995	325	236		208	56	56	22	34	376		119	54	45	20	18	256
1996	325	288		227	61	61	25	37	411		130	59	49	22	20	279
1997	349	232		215	58	58	23	35	389		123	56	46	21	19	265
1998	418	269		254	69	69	27	41	460		145	66	55	25	23	313
1999	388	201		218	59	59	24	35	395		125	57	47	21	19	268
2000	389	185		212	57	57	23	34	385		121	55	46	20	19	262
2001	240	137		139	38	38	15	23	253		80	36	30	13	12	172
2002	302	125		158	43	43	17	26	286		90	41	34	15	14	195
2003	361	148		188	51	51	20	31	341		108	49	41	18	17	232
2004	468	176		238	64	64	26	39	431		136	62	51	23	21	294
2005	398	117		191	52	52	21	31	345		109	49	41	18	17	235
2006	284	59		127	34	34	14	21	230		73	33	27	12	11	156
2007	301	46		128	35	35	14	21	232		73	33	28	12	11	158
2008	174	32		76	21	21	8	12	138		44	20	16	7	7	94
2009	164	35		74	20	20	8	12	133		42	19	16	7	7	91
2010	223	23		91	25	25	10	15	165		52	24	20	9	8	112



Alpine Crest Forecasted Annual Absorption For \$350-\$700K Units Based Upon Cape Cod Sales History: All Feeders												
Actual Sales History				Forecasted Total Annual Buyers By State Based Upon % Off-Island Total Ownership								
Year	Single	Condo	Multi	Total	Total 2nd homes	MA = 58%	NY & NJ = 16%	NE w/o MA = 13.5%	Total 2nd homes purchased by Alpine feeders	Screened For Skiers @ 8.3%	Screened for MA Skiers Only	
1990					0	0	0	0		0	0	
1991	1773	168	0	1941	679.35	391	92	92	574	48	32	
1992	2324	241	0	2565	897.75	516	121	121	759	63	43	
1993	2537	279	0	2816	985.6	567	133	133	833	69	47	
1994	2751	344	32	3127	1094.45	629	148	148	925	77	52	
1995	3120	444	32	3596	1258.6	724	170	170	1064	88	60	
1996	3691	546	63	4300	1505	865	203	203	1272	72	72	
1997	4185	618	74	4877	1706.95	981	230	230	1442	106	81	
1998	5034	782	77	5893	2062.55	1186	278	278	1743	145	98	
1999	4075	720	74	4869	1704.15	980	230	230	1440	120	81	
2000	3693	675	90	4458	1560.3	897	211	211	1318	109	74	
2001	3821	700	85	4606	1612.1	927	218	218	1362	113	77	
2002	4075	831	80	4986	1745.1	1003	236	236	1475	122	83	
2003	4103	851	85	5039	1763.65	1014	238	238	1490	124	84	
2004	4663	993	126	5782	2023.7	1164	273	273	1710	142	97	
2005	3986	1033	100	5119	1791.65	1030	242	242	1514	126	86	
2006	3194	767	88	4049	1417.15	815	191	191	1197	99	68	
2007	3129	726	59	3914	1369.9	788	185	185	1158	96	65	
2008	3043	656	61	3760	1316	757	178	178	1112	92	63	
2009	2919	444	74	3437	1202.95	682	162	162	1016	84	57	
2010	3119	648	24	3791	1326.85	763	179	179	1121	93	63	

### **IId. Analysis of Revised Absorption Results:**

While the Sense of Place Absorption Model performed with a high degree of accuracy with both the MA isolated data, as well as the all-feeder market data, each predicted one price range category more accurately than did the other. The MA-only model did a better job of predicting sales of the \$1.7MM+ units, while the model incorporating data from MA, NY, CT, PA, NJ performed with greater precision for predicting the sale of \$350-\$700,000 units. The reasons underpinning this are not entirely known. One theory could be that large volumes of data are processed better by the all-feeder market model, whereas smaller volumes of information are more readily processed by its single-state counterpart. However, as the annual variance between model and real world data only varied by -3 and 2.5 units for the two price ranges for the MA model and -4 and -1.8 for the two price ranges for the all-feeder model, both models are deemed to be good forecasting tools to be utilized in support of second home demand analysis.

The benefit of this model is that due to its ability to forecast absorption in one market due to the historical data of another market, a long “pseudo-history” of sales data can be analyzed vicariously after filtering through the various screens in order to analyze a synthetic data set for a new development deal that does not have any sales history of its own. As in the case of Alpine Crest, using the SOP Method absorption model can provide as many years of synthetic sales data history as home sales records have been kept on Nantucket and Cape Cod. The benefits of this are numerous. In addition to having a much larger data set to analyze than would otherwise be possible for a new development with little or no sales history of its own, known trends or forecasts in the proxy market can be extrapolated to the subject development.

### **Ile. Future Forecasting:**

In order to best utilize this synthetic data for purposes of forecasting future demand for the subject development, several methods are contemplated<sup>84</sup>:

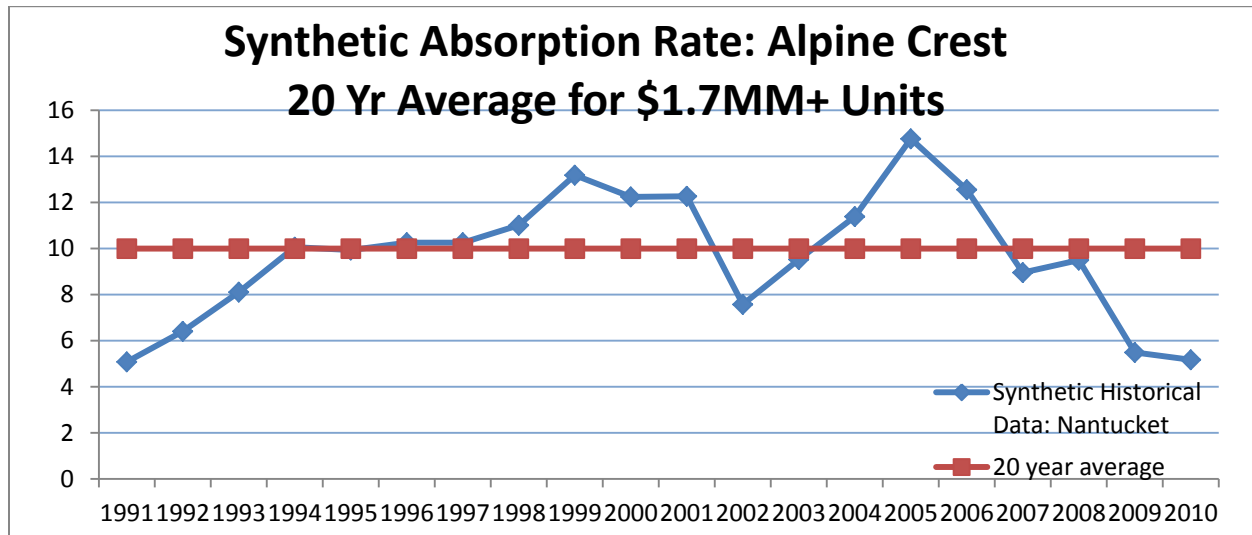
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<sup>84</sup> All theoretical methodologies identified below assume that the subject development’s own sales history is very brief (five years or less), as was the case with Alpine Crest

- 1) Synthetic absorption data for the past twenty years can be analyzed through use of the SOP Method absorption methodology and the average number of sales / year can be projected forward as a guideline for future demand for product
- 2) Known trends in the proxy market can be explored and utilized to forecast future proxy market sales performance. This forecasted data can then be input into the SOP Method structure in order to forecast absorption for the subject development.
- 3) Synthetic absorption data for an adequate period of time can be analyzed through the use of the SOP Method absorption methodology and compared to exogenous variables such as total employment in the United States, total employment in the feeder markets, total employment within a given subset of the feeder markets, such as the financial sector and/or average weather conditions in the feeder markets through the use of an econometric regression in order to identify the variables impacting sales in the proxy market most heavily. If variables are identified with a strong correlation with the proxy market that can accurately be forecasted for future points in time in order to calculate proxy market future sales, this forecasted proxy market sales data can then be input into the SOP Method absorption methodology in order to forecast sales within the subject development.

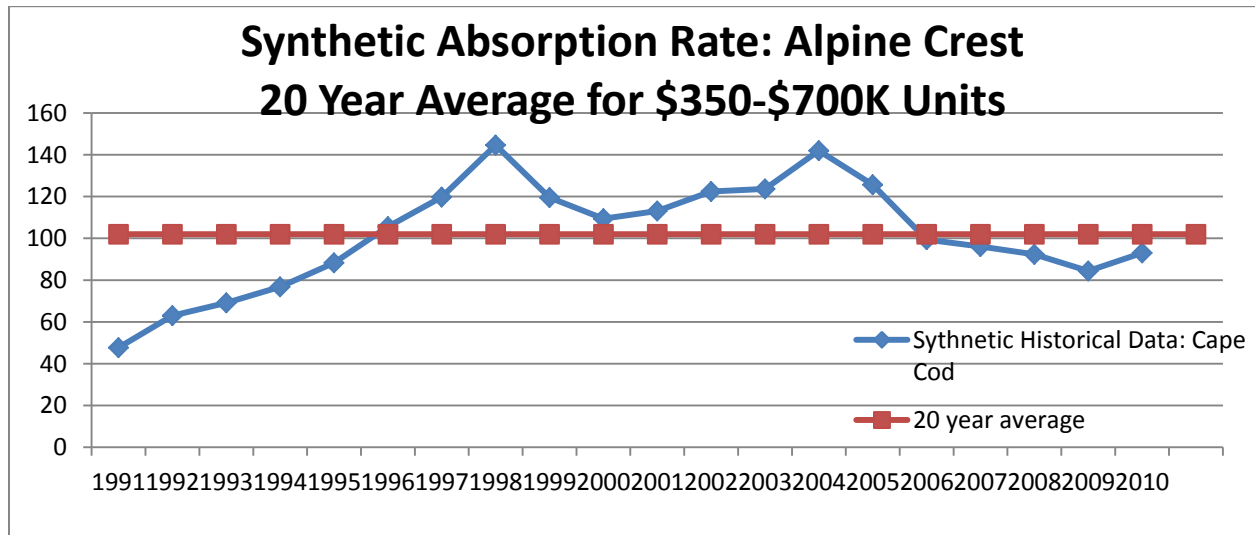
Employing the first method outlined above, the historical averages for each of the two price ranges of product are depicted in the following two graphs:

Exhibit 3.27



As can be seen, utilizing the Sense of Place Absorption Model in order to synthetically analyze a historical trend for demand for Alpine Crest real estate, we see that the twenty year average is absorption of ten units per year for real estate priced in the \$1,700,000 range. This average was derived through employment of the MA-single state absorption SOP Method, as this system performed better than the multiple state feeder during back-testing. **Based on this average, it is forecasted that Alpine Crest can absorb, on average, ten whole ownership units in this price range each year moving forward.** As evidenced by this synthetic sales history, demand will be deep enough to absorb this volume on an annual basis.

Exhibit 3.28



Employing the SOP Method to the \$350-700K Alpine Crest synthetic real estate historical data set, we see that the twenty year average is absorption of 102 units per year. This average was derived through employment of the multiple feeder market Sense of Place Absorption Model methodology, as this system performed better than the MA single market method during back-testing. **Based on this average, it is forecasted that Alpine Crest can absorb, 102 whole ownership units in this price range each year moving forward.**

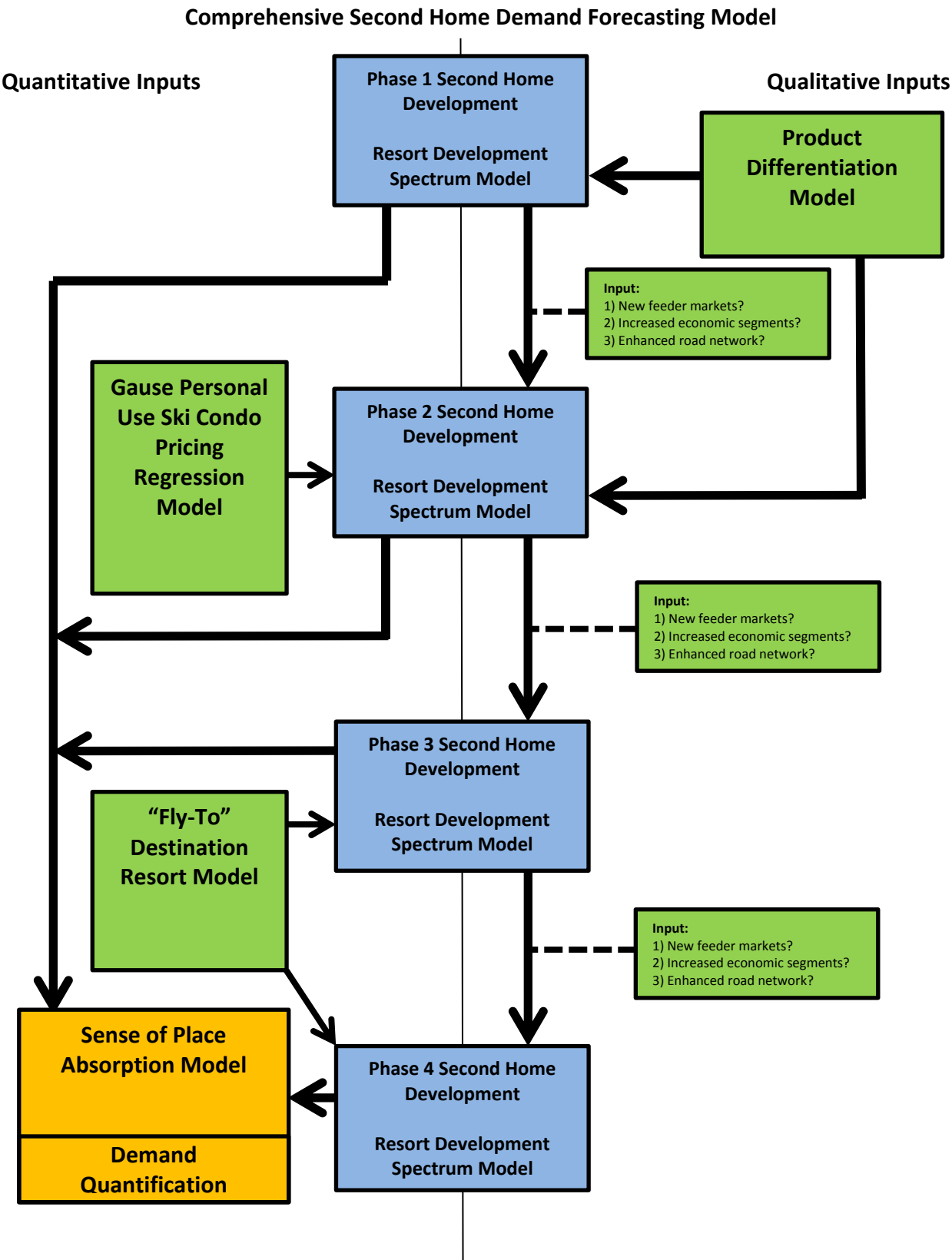
The following chart summarizes the above conclusions:

Alpine Crest Annual Absorption Forecast	
Price Range	Units Absorbed Per Year
\$1,700,00	10
\$350,000 - 700,000	102

#### II: Comprehensive Second Home Demand Forecasting Model

The above forecast was produced through utilization of the methodology formulated within this thesis: the Comprehensive Second Home Demand Forecasting Model. This model represents the framework outlined in the Synthesized Resort Second Home Demand Forecasting Model, presented in Exhibit 2.7, with the modification of adding the Sense of Place Absorption Model as the final step in the overall methodology in order to arrive at a tangible value for demand quantification. This methodology is presented as Exhibit 2.9:

Exhibit 3.29



## Chapter 4: Conclusion

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After conducting interviews with a large number of resort developers and hospitality consultants, it appears that the practices employed by industry professionals to forecast demand for second homes varies widely and there is no industry standard methodology. Forecasts for second home developments are often based in large part upon qualitative data and/or over-reliance upon the sales history of regional competitor projects that do not share enough of a critical mass of attributes to constitute an accurate means of forecasting the performance of the subject development.

However, piecing together the strongest characteristics of a myriad of theoretical and real world demand quantification methodologies has served to form the basis of a framework for the analysis of demand for second home development projects that is it hoped has universal application across the entire spectrum of resort markets. This exercise has shown that through the use of qualitative tools such as the Product Differentiation model, the qualitative traits of a location can be used as a skeleton from which a quantitative framework can be layered onto at each respective phase of the resort lifecycle.

Nevertheless, the importance of the role of qualitative analysis in the second home development process should not be downplayed. In addition to guiding the model's user to the point within the formulated model where the analysis should be initiated, each quantitative component of the demand analysis framework, itself, relies on data from qualitatively similar locations.

An example of one such vitally important qualitative point of assessment for the second home developer is the role of 'sense of place' already existing around and to be created within the proposed development. These qualitative relationships implicit in the 'sense of place' calculation need be concrete. However, they also need not be as superficial as comparing developments of one theme to only others sharing that theme (such as only comparing ski resorts to other ski resorts). As demonstrated through the Alpine Crest case study, key relationships can exist between warm and cold weather destinations. Therefore, it is postulated that having a common 'sense of place' is more important than more superficial traits such as

sharing the same climate, activity or immediate geographic proximity with a resort's true set of competitive properties. However, in these instances of translation across destination types, a rigorously quantitative "filter" must be applied to data being interpreted across project boundaries to ensure an 'apples to apples' comparison is being made.

When applied successfully, as evidenced by back-testing of the Sense of Place Model in the Alpine Crest application, the rewards can come in the form of a great deal of new data which can aid greatly in the demand quantification process. For Alpine Crest, the benefits translate from a very short actual sales history corresponding to their own project into a very long set of actionable 'synthetic sales history' from a statistically proven parallel market.

The culmination of this research effort was an attempt to derive an innovative, universally applicable framework from which demand for second homes could be analyzed. The intention was to create a methodology that was both quantitatively, as well as qualitatively rigorous. The tangible product of this effort is a structure that fuses a number of known methodologies for the earlier stages of feeder market examination and employs an innovative approach developed by the author to translate these preliminary findings into a tangible absorption value for any hypothesized range of product price. The model is called the Comprehensive Resort Second Home Demand Forecasting Model. This model is presented above as Exhibit 3.29. The framework for this model leans heavily upon another innovative product of this research effort, the 'Sense of Place' Absorption Model, which is represented graphically as Exhibit 3.18.

Future research efforts building off of the work done in this thesis could take the form of the following:

- 1) Back-Testing the Sense of Place Absorption Model in a region outside of the northeastern United States: In the event that significant patterns in real world back-tested absorption data between two resort second home destinations with similar 'senses of place' yet different central themes and amenities could be shown to exist with the rigorous use of a substantiated filter, as was the case in this thesis, increased credence would be lent to this new methodology.



- 2) Exploration into fractional ownership forecasting: There is a belief within the resort industry that there is an inverse relationship between hotel room rates and demand for fractional ownership units. Through use of Gause's hospitality hedonic price forecasting model, a forecast could be garnered for future room rates that could, in theory, then potentially be used to forecast demand for fractional ownership units.
- 3) Hedonic regression analysis with synthetic data set: As referenced in Method #3 of Section IIe of Chapter 3, the synthetic data set accumulated through use of this model could be placed in a hedonic regression with a variety of independent variables in an effort to determine what variables cause changes in demand in the subject market. The identification and forecasting of values for these variables could then be utilized as a means of forecasting future demand for units within the second home development.

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